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ABSTRACT

These proceedings contain the reports of almost 100 speeches, panel discussions, and workshops. The papers were presented on a variety of issues, including marketing research ethics, lifeline banking, information and the consumer, financial management, evaluating consumer education literature, consuming units around the world, the consumer and food, the consumer expenditure survey program, expenditure patterns, consumer behavior and education, credit, economic concepts, Illinois guidelines for consumer education, and the consumer field. Selected titles of particular relevance to education are "Changing Issues, Changing Agendas: Winning for the Consumer in the Next 50 Years" (Rhoda Karpatkin); "Estimating the Returns to Informed Decision-making: What Is a Subscription to Consumer Reports Worth?" (Brenda J. Cude); "Effects of Nutrition Label Format on Consumer Nutrition Decisions" (Joel Rudd); "Stress from Financial Problems and Ways of Coping: Implications for Financial Counselors" (Joye Dillman and Sally E. Horton); "Work after Retirement" (Jeanne M. Hogarth); "Sources and Types of Bias in Consumer Education Literature" (Jean Bowers); "Rationalizing Food Buying for Industrial Society: The Role of Consumer Educators" (Ann M. Christner); "Student Involvement in the Consumer Movement" (Richard McClintoch); "Family as a Consuming Unit: Overlooked Variable in the Modernization Process" (Revathi Balakrishnan); "Measures of Economic Well-Being: Husband and Wife Consensus" (Mari S. Wilhelm and Donna R. Iams); "Development of a Consumer Issues Attitude Inventory Based on a Descriptive Framework of the Consumer Interest" (Jean M. Lown); "Food Related Attitudes: Difference between Employed and Unemployed Women" (Anna Resurreccion and S. E. Prussia); "Consumer Price Index: Incorporating Results from the Consumer Expenditure Survey" (Charles C. Mason); "Wife's Education and Family Food Expenditures" (Ann C. Foster); "Women's Labor Force Participation: Economic Implications for Retirement Planning" (roundtable discussion); "Retirees as Volunteer Consumer Educators" (Mary Edmondson and Raymond Forgue); "High School and College Students' Consumer Actions: Implications for Consumer Education" (Barbara Pershing); "A New Assessment of the Benefits of Consumer Education" (Mary Carsky and Glen Mitchell); "Testing the Effectiveness of a Consumer Education Program for Preschoolers" (Louise Heslop and Kathleen Brophy); "Understanding Young Consumers: Cognitive Abilities and Task Conductors" (Deborah Roedder John); "Issues in Measuring Young Children's Responses to Television Advertising" (M. Carole Macklin); "Cable TV: Emerging Consumer Issue" (Lee Richardson and Martin Lazar); "St. Louis Public Schools Consumer Education Program: A National Model" (panel discussion); and "Teaching Ethics and Human Values through Consumer Education: Contributions to Aristotle, Kant, and Mill" (Audrey Peterson). (KC)

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32nd Annual Conference
of the
AMERICAN COUNCIL ON CONSUMER INTERESTS

April 9 - 12, 1986
St. Louis, Missouri

Edited by

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University of California
Cooperative Extension
Riverside, California

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AMERICAN COUNCIL ON CONSUMER INTERESTS
32nd Annual Conference
April 9-12, 1986

St. Louis, Missouri

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President, ACCI

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Assistant Deputy Attorney General, Missouri

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Immediate Past President, ACCI

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FROM THE EDITOR

The 32nd Annual Conference of the American Council on Consumer Interests provided the opportunity for presentations and discussions of many areas of concern related to consumers. Again, this year the conference had no theme which allowed participants the freedom to submit papers on a variety of issues including marketing research ethics, lifeline banking, information and the consumer, financial management, evaluating consumer education literature, consuming units around the world, the consumer and food, and the consumer expenditure survey program. In addition, Rhoda Karpatkin started the conference with a challenging paper on "Winning for the Consumer in the Next 50 Years."

All speakers on the annual conference program -- those presenting refereed papers, participating in panels and symposia, invited speakers, and the Colston Warne lecturer -- were invited to submit camera-ready manuscripts, typed to Proceedings specifications for inclusion here. The cooperation of presentors and their support staff have been excellent and is greatly appreciated.

The program chair, Carole Makela, provided us with an interesting program and is to be commended for that effort. Appreciation is also extended to the speakers, manuscript reviewers, and local arrangements committee. Special appreciation is extended to Beverly Barlin and Sandra Burright for their technical assistance in the preparation of the Proceedings.

Karen P. Schnittgrund
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CHANGING ISSUES, CHANGING AGENDAS: WINNING FOR THE CONSUMER IN THE NEXT 50 YEARS

Rhoda H. Karpatkin, Consumers Union of U.S. Inc.[1]

I am happy to be with you today. I am happy because ACCI's 32nd Annual Meeting attests to the durability and vitality of this organization and its members. I am proud today, as I was the first day I became Executive Director of Consumers Union, to be linked with the name and work of Colston Warne.

I would like to pay a special tribute to Colston Warne. If he had done only one thing in his lifetime--steered CU as its founding president in 1936 until he stepped down in 1980--it would have been a remarkable achievement. But Colston was tireless in his search for ways to advance the consumer interest. His efforts, and CU's grants, helped launch many pioneer consumer organizations. The list, to me, is dazzling: IOCU, CFA, ECRI, Center for Auto Safety, Washington Center for the Study of Services, and many smaller ones as well. In an article, Colston details as most notable the founding in 1953 of this outstanding organization in which he was directly involved and CU's grants to ACCI for 20 years.

Those organizations were pioneering, of course, but Colston was the real pioneer because he had the vision to see that they were needed and that he had a role to play in creating them.

CU's 50th anniversay has become more than a celebration at CU. It has propelled many of us to turn our attention from our day-to-day work and concerns, and to pay attention to something that had slipped too much into the background: the history of the consumer movement.

I hope you'll read the historical articles in the January and February 1986 issues of Consumer Reports, and our retrospective articles on products of yesteryear in the current issues. Two Smithsonian museum exhibits will mark our history, one at the Cooper-Hewitt Museum in New York, opening in September, and the other in the National Museum of American History in Washington, D.C., opening in June. The Cooper-Hewitt will feature products and services that have made a difference. The American History exhibit will show how citizen action can protect consumer interests.

And our gala dinner in May will not only celebrate our longevity, but will retell our history and our place as part of the rich fabric of American history.

And so, thinking historically, I asked myself, as I prepared this lecture: Have consumer issues changed much in the last 50 years? Are we facing formidable new problems, or are today's major issues just a further iteration of those of past years?

Why does it matter? The consumer movement, like all movements, has an agenda, and each consumer organization fashions its own. The total reflects a composite judgment of wrongs that must be righted, threats that must be averted, pitfalls that must be avoided, products and services that must be improved, education and information that must be provided, and so on. Over the years, our movement has had remarkable achievements. We have helped to make products safer, and consumers more informed and more health conscious. We have aided consumers in becoming wiser buyers of goods and services in many different ways. We have fought for the rights of consumers and for legislation to establish those rights. New organizations have sprung up, reflecting the many ways the consumer interest can be perceived and served.

Yet, even with such a record, we need to check from time to time, to see if we are on the right course. Has the consumer movement identified the pivotal issues facing consumers in 1986? Are we focusing our attention where it is most needed? Where it belongs? Do we need to frame new issues?

When Stuart Chase and Frederick Schlink wrote "Your Money's Worth" in the 1920's, they created a new agenda for consumers: impartial product testing to counter the fraudulent and manipulative advertising of consumer products. It sold strongly and was one of many such writings that galvanized the thinking of consumers all over the country. Colston Warne has written that Chase the Schlink deserve the major credit for the invention of what he called "the new social movement," the consumer movement.

Those men, and the people who worked with them and ultimately founded Consumers Union, framed new consumer issues for that time, and created the intellectual ferment, the organizations, and the public support to deal with them.

Of course, that's a task that's never completed. We must take stock continually. We must ask if we're devoting our time, our strengths, and our leadership to the most crucial problems facing consumers. This Annual meeting presents an excellent opportunity to pause and to try to answer that question.

I would like to nominate for your consideration three issues that should be provoking the attention of consumers and their organizations. They need discussion because they are somewhat new, at least in their present forms, although they have roots in the past. They are too important to be ignored by the consumer movement, and yet, may not, at first blush seem a perfectly comfortable fit.

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[1] Executive Director

The first issue is the consumer's right to be protected from hazardous technologies and the toxic substances associated with them. It is a puzzlement to know where, among all the organizations concerned about human beings and their health and safety, there is a perfect fit for an issue like this. Is it a labor issue? Is it for environmental organizations? A city planning problem? It is all of those; but, it is unquestionably a consumer problem as well and consumers must be part of the solution.

The disaster at Bhopal in December, 1984--where more than 2,000 people were killed and hundreds of thousands injured--should have struck fear into the hearts of any citizen living near a plant involved in hazardous industrial technologies and toxic substances. Perhaps some people believed that the Bhopal tragedy was related to the place where the plant was located--that it was a Third World problem. That false hope was shattered when, many months later, another Union Carbide plant, manufacturing the same deadly methyl isocyanate, had a serious accident as well. That accident did happen here, in Institute, West Virginia. That plant had the most deadly warning imaginable, the example of Bhopal. That plant was surrounded by concerned citizens who tried to engage the company in discussions about protecting the citizens who lived nearby. That plant was owned by a company reeling from the magnitude of the Bhopal disaster, a company that sought to place blame for it on Carbide's Indian managers and workers.

By now, everyone realizes that, indeed, a Bhopal can happen here. The accident at Institute was a warning. Another warning last year was sounded when an accident at Kerr-McGee's uranium processing plant in Oklahoma killed one employee and injured about 30 others. A radioactive compound, uranyl flouride, escaped from a ruptured container into the plant and the surrounding site. Widescale testing of area residents took place at a nearby hospital.

According to the New York Times, a Nuclear Regulatory official described the safety concerns as "minimal." But were they? The Times reported that many of the nearby residents, about a fifth of them children and teenagers, were exposed to the gas cloud. Residents have raised questions about the company's emergency contingency plans, and about the safety of its maintenance procedures and of its transportation system. Some residents complained about a time lapse between the accident and the spreading of an alarm. A company official said that the first need was to evacuate employees, and that the State Highway Patrol was notified within about 20 minutes. He said also--more than one year after Bhopal--that no special review of procedures had been made as a result of Bhopal, but that because of the Kerr-McGee accident, many changes would be made.

The Kerr-McGee accident had much in common with Bhopal and Institute. It involved transfer from a storage tank, instrument malfunction, untested industrial procedures, and it occurred on a weekend. Most important, in all three cities, local emergency officials said they were either unprepared for the accident or were not informed of it.

No one can predict where, or when, or how the next accident will occur. We know they keep on coming. In the United States, according to government figures, there have been 6,928 accidents involving toxic chemicals, including 139 deaths, during the past five years.

We know, too, that just as Bhopal in India was unprepared for a disaster, so are we in America. For example, in November 1985, a survey was done by the Workers' Policy Project and Dr. Steven Markowitz of Mt. Sinai Hospital in New York, of all acute care hospitals serving the industrial corridor of Northern New Jersey, within 40 miles of Manhattan. The population of the seven counties included in the survey was 3.5 million. This region has the nation's highest concentration of plants using toxic chemicals. Yet, the total number of critically ill patients that could be treated at all the hospitals in the region combined was fewer than 500. A Bhopal-type tragedy would overwhelm such facilities. Worse, the report also found a severe lack of knowledge about toxic industrial chemicals. Industries and their nearby hospitals had virtually no information exchanges. Doctors in emergency rooms had no idea as to what patients in chemical accidents are likely to be exposed to, or whom to contact in the industries for information in the event of an accident. Specific protocols for chemical emergencies have not been written or implemented in the emergency rooms of most of the hospitals surveyed. The report concluded that the accident at Bhopal should serve as a warning to health care providers, workers, industry, and nearby communities.

Shortly after Bhopal, I helped organize several meetings of environmental, labor, church, and consumer groups to discuss what citizens could do, and to work for justice for the victims and the prevention of future disasters. We evolved into the Citizens Commission on Bhopal, which I co-chair with Dr. A. Karim Ahmed of the Natural Resources Defense Council. On the first anniversary of Bhopal we held a conference and released position papers on various aspects of the difficult problems raised by the Bhopal accident.

The most important points we made related to the subject of this discussion. The Commission stated strongly that not only workers, but communities as well, have a right to know what is being manufactured, processed, stored, transported, and disposed of in plants and the surrounding environment. Even more, the Commission said they have the right to be involved in auditing the safety operation. They have the right to assess the risk created by the plant and its activities. We said that a worst-case-risk scenario must be made available publicly, and that local public health and medical services must submit reports showing how they would respond to a worst-case scenario accident.

Most significant, we said that workers and communities need to be able to act to prevent accidents before they occur. Presently, only government agencies and corporate officials have the power to halt unsafe processes. The Union Carbide and Kerr-McGee accidents, and the many others as well, show us that government regulation is too little or too late, and that corporations cannot be relied upon to protect the safety of citizens. We proposed the deputization of at least one worker inspector and one community inspector in each plant, to check maintenance and to be empowered to halt any process they have reason to believe is unsafe, as well as to obtain independent medical, engineering, and scientific help in making assessments and suggesting alterations.

These proposals would have been perceived as going too far many years ago. Today, one may ask whether these--or any other proposals now being discussed--go far enough in protecting communities and workers.

The consumer movement and Americans generally pride themselves on how far they have come in making life safer and better for consumers. This may indeed be true with respect to products: lawn mowers are safer and so are baby cribs. We have several relatively new federal agencies monitoring safety, and even if they are not effective at this moment in history, the structure exists so that they may again enforce our laws in future times.

But we have traded new dangers for old, and the magnitude of the danger has become greater, not smaller. I was reminded of that last month on the occasion of the 75th anniversary of the Triangle Shirtwaist Company fire in New York City. This fire, described in The New York Times as "a tragedy that echoes still," is credited by the Times with "sparking a nationwide crusade for safer working conditions." There were 500 women sewing cotton blouses, mostly young and immigrants, when flames engulfed the factory. Fire doors had been locked to keep them from leaving the building with stolen goods; 146 workers were killed.

In the 75 years between the Triangle fire and Bhopal, we have not come far enough in worker safety. And the safety problems that once seemed limited to the workplace have now spread from workers to the community as well.

The Triangle fire anniversary stirred The New York Times to review the state of workplace safety in the United States. It noted that the government agency responsible for enforcing safety laws and regulations, OSHA, had 1,328 inspectors in fiscal year 1980, and was down to 1,086 in 1985. Over the same period, inspections in response to complaints plummeted by 46%. And total penalties dropped 44%.

In sum, the safety of industrial plants and their technologies have become consumer problems. They are in the same category as the safety of the food we eat, the water we drink, and the air we breathe. True, they are only beginning to be perceived in that way, and they are not only consumer problems. But their nature and magnitude should propel those of us in the consumer movement and those of us concerned with consumer education to enlarge our frame of reference to incorporate this awesome problem into our agenda, to act, to teach, to think, to show concern.

The world consumer movement has begun to do so. Of course, leading consumer organizations in India have been active. So, too, has the International Organization of Consumers Unions (IOCU). We have organized a Working Group on Hazardous Technologies, working out of our regional office in Penang, Malaysia. We have published materials, and participated in a multinational UN consultation on the problem, speaking for the consumer interest.

We will continue to be involved in national and international efforts to set procedures, standards, and guidelines to help prevent future Bhopals.

The second issue relates to a particular sort of corporate behavior. There is an arrant lawlessness abroad in this country and elsewhere in the world, a pervasive indifference by many corporations to laws, regulations, codes, and minimum standards of human decency. We see it in manufacturing and marketing. We see it from the lowest levels of the corporate ladder to the highest. We read about it in the newspapers with appalling frequency. There seems to be no abatement.

You may have your own examples, but allow me to cite a few.

- The most recent was the finding by OHSA this month that Union Carbide's Institute plant had about 200 alleged health and safety violations. Fifty-five laws were violated. A penalty of $1.4 million was levied.
- E.F. Hutton was convicted in May, 1985 on 2,000 counts of mail and wire fraud, a felony. The Connecticut State Banking Commissioner said that the safety and soundness of the banks were placed in jeopardy.
- Eli Lilly & Company, the pharmaceutical giant, introduced a new drug, Oraflex, with FDA approval. It never revealed to the FDA that it had received reports from its British affiliate describing adverse reactions and deaths. Lilly's Chief Executive Officer admitted that he had decided to market Oraflex even after seeing reports of the deaths of five elderly women. The FDA called the launch of the drug "less than ethical" and "false and misleading." By the time it was recalled, it had been connected with 26 deaths and over 200 cases of individuals with serious side effects from the drug. The company and one medical officer were

charged with a misdemeanor and fined $25,000 and $15,000, respectively.

- Last June, three executives of a company called Film Recovery Systems were found guilty of murder in the death of a worker who died near a vat of cyanide at the company's plant near Chicago--the first time executives have been convicted of homicide in a corporate matter.
- The Wall Street Journal reported last month that job deaths and injuries are increasing as businesses cut corners and the Reagan administration cuts health and safety enforcement.

The above examples tell us who got caught. It's a safe guess that most white collar criminals get away.

I'd like to use a case study today to describe what I believe is the worst corporate criminal--at least on this morning's scorecard. I'm talking about the A.H. Robins Company and its Dalkon Shield, an intrauterine birth control device that has caused many thousands of cases of pelvic infections, some leading to sterility, miscarriage, and even death.

Starting in 1971, in the United States more than 2.5 million Shields were inserted into women by their doctors. Another 1.5 million were distributed in more than 75 foreign countries. From the outset, Robins engaged in deception about the safety and efficacy of the product. Its testing was specious. The company knew virtually from the beginning that the Shield caused pain and infection, and that the low pregnancy rate claimed was false. By concealing that copper sulfate was part of the product as a spermacide, Robins avoided an FDA requirement for proper testing for safety and accuracy. Women in whom the Shield was inserted suffered from pelvic infections, punctured and destroyed uteri, abortions, unwanted pregnancies, and damaged children.

Although Robins halted sales in the United States in 1974, it was not until 1980 that Robins advised doctors to remove devices then in use. By then, countless injuries and some deaths had resulted. Yet, another four years passed before Robins publicly advised women still using the Shield to remove it.

At this point, there are about 250,000 claims against Robins for injuries relating to the Shield. Hundreds of millions of dollars have been paid in compensation and punitive damages in cases now concluded.

In order to avoid making full restitution for the grevious harm it has done, Robins has declared bankruptcy, a ploy now increasingly used by corporations that, either with criminal intent or without, have created millions or billions of dollars of injury to innocent consumers.

It is bewildering to normal people to ask how the people at Robins could have done this. It is scandalous that, even at this point, Robins' recall of the Shield has barely been promoted in the many countries abroad where it has been sold and inserted. In the countries outside of the United States where the Dalkon Shield goes right on doing its damage, Robins has done the least possible in notifying women of the serious danger and the deadline for bringing claims. Of course, part of the problem is that Robins does not admit that its Shield has done the harm that now seems so apparent.

This sordid tale involves more. Morton Mintz, the notable Washington muckraker, has told the story in a worthwhile book, "At Any Cost." He details how the corporation covered up and destroyed reports of injury and death, and research results that would have interfered with sales. He describes how the corporation ordered its attorney to destroy papers that would have disclosed the truth in court. He details how women plaintiffs were badgered and abused. J.K. Galbraith, in his review, calls the story "truly horrifying" and that is exactly what it is.

All the examples I've given illustrate not one, actually, but two issues that consumers need to address. The first I've described: corporate crime. The second is related. Robins is just one pharmaceutical company engaged in a worldwide trade that markets to Third World consumers products that are unsafe or inappropriate for them.

This is an issue that has preoccupied consumer groups for decades. The world consumer movement has mounted an organized campaign to counter such marketing practices. It has done this through IOCU and the network IOCU helped found, the Health Action International (HAI).

Consumer and health-related organizations throughout the world have joined together to monitor the global marketplace in pharmaceuticals. It is they, more than Robins, who are notifying women to remove the Dalkon Shield, and to file claims before the court-set deadline. They have articulated principles of ethical marketing, principles that would protect consumers from the marketing of unsafe, unnecessary or inappropriate drugs. They have succeeded in driving off the market--after a lengthy global campaign--the harmful drug, clioquinol, and a few others as well.

The task is enormous, and everyone concerned with consumer issues can participate. It begins with strong consumer awareness that there must be ethics in marketing, and that human health and safety must come before profits. Pharmaceutical companies have made a formidable contribution to human well-being, but they have brought death and injury and suffering as well. This latter they must not be allowed to do. Some consumer organizations, and many concerned citizens as well, are examining the weak and inadequate penalties that corporate wrongdoers receive. Our nation's legal structure and its enforcement mechanisms have not caught up with the crimes corporate leaders have been able to commit.

This is an issue where study, analysis and action must be combined. All of us have a role to play.

A third issue has thrust itself upon consumer organizations, and that is the issue of the poor consumer. Certainly poverty is not a new issue, and the consumer movement has never ignored it. In the 1960's, during the war on poverty, considerable attention was paid to protecting poor consumers from unacceptable credit practices and from discrimination in the marketplace. Today, consumer organizations work to assure that necessary services such as banking are vouchsafed to poor consumers. I am pleased to see that at this conference there is a session on lifeline banking.

Consumers Union, when it was founded in 1936, dedicated itself to "decent living standards for ultimate consumers," and recognized that reporting on the quality and price of products alone could not achieve that goal. We said in the very first issue of Consumer Reports, "all the technical information in the world will not give enough food or enough clothes to the textile worker's family living on $11 a week."

Today, this country, in all its affluence and generosity, is tolerating a poverty reminiscent of the 1930's. The basic needs of consumers--food, housing, and health care--are not being met for an appallingly large segment of our population.

In the 1960's, the war on poverty engaged our national attention. We perceived ourselves as a nation engaged in a battle to end poverty, and were optimistic about the outcome. We believed that we could end hunger in American and provide for the other basic needs of our population.

We know now that our nation has changed course. From a consumer point of view, we have become two Americas. One segment of our population can live decently, can go shopping with money in its pockets and make decisions about what appliances and cars to buy. It can concern itself with what personal care items and what food brands are most desirable. That part of the population is concerned about how to save its money, about its retirement income, about the cheapest air travel, and about insurance. It consults Consumer Reports. The other America is engaged in a losing struggle to provide for the most minimal necessities. It struggles to get enough to eat or a place to live or adequate health care. In 1984, 33.7 million Americans were poor. The 1984 poverty line for a family of four was $10,609 in annual income.

Most tragically affected are children. One out of every five children lives in poverty today. This is almost twice the rate for adults. More than half of all Black children under six live in poverty. More than 40% of Hispanic children live in poverty.

From 1968 to 1983 the total number of children in our country decreased by nine million, to 62.1 million. Yet, the number of poor children increased by three million.

Astoundingly, more than a sixth of the poor children--2.5 million--are in families where at least one person works full time. Did we believe that a full-time job prevents poverty? That myth is shattered. Of all persons heading poor families, over 49% work at some point during the year.

A smaller proportion of poor children now receive food stamps and help under Aid to Families with Dependent Children than received them a dozen years before. Poor families with children have fallen further below the official poverty level. In 1968, the poorest fifth of all families had an average of 91% of the income they needed to meet their basic needs. In 1983, they had only 60%.

There is a part of the American dream that is becoming an American myth, and that is, if you get a job and work in this country, you can live decently. Yet, the Center on Poverty and Policy Priorities reports that more than two million people who work full-time year-round don't earn enough to escape from poverty. A stagnant minimum wage has contributed to that fact. Since 1981, prices have risen about 25%, but the minimum wage has not changed. The result is that in 1984 a family of four where one person worked full-time at the minimum wage fell more than $3,600 below the poverty line.

Another American assumption has been shattered. Most Americans believe, in some vague way, that the current economic recovery is associated with a satisfactory employment level. Some economists believe that the 7.2% unemployment rate is a natural part of our system. But the cold fact is that 8.5 million people who are looking for jobs can't find them. Worse, only about a third of these people are currently receiving unemployment benefits--a record low. And these figures tell us nothing about the large number of people who do not make it into the recorded unemployment statistics because they have given up looking for employment.

Yet another American myth has been shattered in the last few years. That is, that the people of this affluent and generous country will be certain, through its various programs, to take care of its needy. We want so much to believe in the "safety net." But the facts show otherwise. The Physicians Task Force on Hunger in America, sponsored by the Harvard School of Public Health, called hunger a "growing epidemic." This finding was confirmed by the United States Conference of Mayors, which surveyed 25 cities around the country. It reported that in 24 of the cities, requests for emergency food assistance increased by an average of 28% in 1985, but two-thirds of these cities have had to turn away hungry people.

Another American myth that has fallen by the wayside is that we can provide housing for people who need it. This was high on our national agenda when Franklin D. Roosevelt was inaugurated. But today we are a society in which large numbers of men, women, and children are without housing. We see them sleeping in the streets, in train stations, in doorways, in shelters for the homeless. No one knows the real number. Almost two years ago, the Administration estimated the number between 250,000 and 350,000. Advocates for the homeless estimated between 2 and 3 million.

The largest growing group, according to the Conference of Mayors, is families with children. In many cities the number of young people, mentally ill, and single women are also increasing. And, sadly in over 60% of the cities reporting to the Conference of Mayors, emergency shelters have to turn away people with need.

The Mayors' report carefully listed the causes of homelessness. Some of them are: shortage of affordable housing, problems relating to chronically mentally ill people, unemployment problems, inadequate levels of public assistance programs, and cuts in federal and state assistance programs. And, in none of the cities surveyed had the nation's economic recovery lessened the problem of homelessness. Indeed, to take an example, the city of St. Paul reported that because federal and state governments have tightened eligibility requirements for welfare programs, to aid their own recoveries, thousands of people have been removed from the rolls and have no place to go.

Earlier this year, People magazine published two articles documenting homelessness in America. What was shocking were the faces and the stories that went with the faces. We did not see the derelicts and the mentally ill. We saw a mother from a well-to-do family with three children. We saw another mother who had graduated from college in Chicago. We saw a man who had worked at a Parks Department job for six years in Gary, Indiana. We saw a former businessman, the father of a law student.

When a sizable number of the American people can't get enough to eat or a place to live, that is as much a consumer issue as how to eat or how to live.

In the 1960's, when the problems of low income consumers were an important part of our nation's agenda, specific organizations dedicated themselves to these issues. There was a National Welfare Rights Organization. Federally funded legal service became the defenders and advocates of poor people. Consumer organizations were attentive to the legal rights of the poor, but many of us believed that the overriding issue of the minimum standard of living would be met by federal programs for that purpose. Today, welfare rights organizations are long since gone, and legal service programs valiantly defending the poor are fighting for their own lives because the Administration has tried persistently to abolish them. But, we are still here, and the problems of poor consumers are rightfully placed on our agendas.

We know that federal tax and budget policies in the last few years have brought increased financial benefits to many corporations in the form of lower taxes. Those policies have made many well-off Americans more affulent; but as they have done so, they have made many poor people even poorer. Hunger and homelessness have followed in the course of those policies. Since 1980 the average real disposable income for families in the lower fifth of the population has declined by 7.6%, while for the richest fifth it increased by 8.7%. This changing landscape needs to be perceived by students and by all of us. We need to understand the nature of poverty and its costs to this country.

We need to see how federal tax and budget policies affect on the basic needs of our citizens. We need to analyze the effects of cutbacks in the various subsidies and aid programs, in the various job training programs.

Let's look at the President's proposed budget for the next fiscal year, for example. It cuts almost every domestic program that could help the poor. It reduces, from current year levels, spending on food stamps, child nutrition programs, Aid to Families with Dependent Children, subsidized housing, aid to cities and counties via the Community Development Block Grant Program, loans to build rental housing for the elderly and handicapped, training and employment programs, and more. The proposed budget is a heartless assault on our poor children and poor people in general. It will increase and intensify hunger and homelessness and other indicia of poverty.

I know that for consumer educators the issue of the poor consumer as I have described it may not fall easily into the traditional categories of consumer education. I know how much dedicated work has been done by consumer educators to assist poor consumers in the wiser spending of the money they have. But a certain amount of additional thinking is timely today to see the issue in another framework.

When government action is reponsible for an increase in hunger and homelessness, those policies should be probed and analyzed by students. Their fairness and wisdom should be evaluated. Their long-term consequences--to the poor and to the rest of the country--should be studied. Students need to grapple with fundamental questions of economic and social justice, and work to ameliorate injustice by engaging in debate and action to change the course of national policy.

And not only students, of course. I have urged that consumer organizations take on the specific food, housing, and health care problems of poor people that fall within their bailiwick. Consumer organizations in developing countries must deal with these issues--the basic needs of consumers--as matters of great urgency. And so must American organizations. The issues are very much the same, whether in affluent America or in the Third World.

Consumers Union, which has always paid some attention to these issues, will step up its own efforts. We're planning a major conference in November, and a publications program.

Business can make a contribution, too, realizing it is in its own interest--as well as just--to operate in a nation with a trained work force and an expanding base of people who can buy products. Business can do more than contribute to charity. Business can affect national policy. This is the time for corporate leaders to join in the fight against hunger and homelessness, to tell our Administration and Congress that the policies that favored them so well have gone further than justice and decency should allow.

The three issues I've described this morning--hazardous technologies, corporate crime, and poverty--have some common characteristics:

- They enlarge and redefine the more traditional consumer agenda.
- They are among our most pressing national issues at this very moment.
- They are complex.
- They are health and safety-related issues.
- They are global.

If the consumer movement is to be successful in the next 50 years, these are the issues we will have to address. These are the areas where the consumer interest must be successfully protected.

When I urge attention to these issues by consumer organizations and educators, I am not in the least denigrating the issues and studies that have been at the core of the consumer interest for so long. But, as Colston Warne taught us, agendas shift, enlarge, change, re-shape, adapt. We must keep pace.

The consumer movement we know today was launched by thinkers, writers, and doers who defined new issues and founded new organizations to pursue them. Our movement has kept its vitality for more than half a century because its founders--like Colston Warne, for example--recognized those new issues and galvanized people into thinking and acting. And as those issues ripened, our movement continued to keep its vitality because new leaders emerged to push, yet again, the definition of the consumer interest.

In "Your Money's Worth" in 1927, the authors, after detailing the many wrongs, said "it's the consumer's move." I like that, because it told us that if we were active, we could change the way consumers were treated. Today, I urge everyone here to think that it's his or her move. As Anwar Fazal said when he delivered the Colston Warne lecture in 1983, "ACCI represents an intellectual blood bank unsurpassed in the world." Your knowledge, your skills, your experience are an invaluable asset to the consumer cause. If you apply them to the issues I've discussed today, you will have linked arms with Colston Warne in his lifelong quest for economic and social justice.

CENTS-IBLE INTEREST© APPLIED TO ADVERTISEMENTS OF SAVINGS RATES

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ABSTRACT

Deregulation of interest rates stimulated rate competition offering consumers unparalleled choices. The quoted rates, however, are not sufficiently described for savers to make accurate comparisons or to predict earnings.

This study analyzed 28 advertisements published in one newspaper on one day. There were 75 different rates using 11 different names. And the yields, which were frequently given, were identified by at least 9 different names. The absence of standardized terminology introduces uncertainty when comparing savings plans. Also, diversity of methods of compounding and computing interest requires skills of a finance professional to equate, for example, continuous compounding on a 356/360 basis with daily, monthly or annual compounding. The Cents-ible Interest© rate was computed for each rate puting them on a comparable standard of daily compounding on daily balances. The ability of consumers to make correct choices of rates presented in this unconventional manner has been documented; such rates are not confusing.

Although the study is limited to one market at one time, it provides ample evidence of the problems which would be even greater in magnitude if broadened to include more newspaper ads.

A more significant limitation of the study is that it deals with only four of the basic elements governing the amount of earnings paid on savings; discovery of others would require verification of actual accounts. The need for full disclosure of all of the basic elements is offered as justification for a Consumer Savings Disclosure and Verification Act which is referenced, but not discussed in this paper.

INTRODUCTION AND PURPOSE

Twenty-four years ago President Kennedy proclaimed The Rights of Consumers: to safety, to be informed, to choose and to be heard. The right to choose among rates paid on savings instruments was limited for many years by regulations limiting the rate paid on many savings accounts to 5 1/2%. But with passage of The Depository Institutions Deregulation Act of 1980 (PL 96-221) there has been an orderly and rapid deregulation of rates. The result has been an avalanche of new rates and rate forms which may become even more volatile after March 31, 1986 when all the regulated rate ceilings are fully phased out.

The purposes of this paper are: (1) To document the variety of the choices offered in one market at one time. A complete analysis of all the rates advertised in The Washington Post Washington Business for the week of Monday, August 6, 1984 is presented. This same week the U.S. House Banking Committee held hearings on HR 2282, the Truth in Savings Act. (2) To demonstrate how such a variety of complex rates can be reduced to a single comparable standard rate form. (3) To develop positive proposals for addressing the problems revealed by this complete analysis of the complex rate forms in current use.

The study excluded from consideration advertisements of investments in bonds, stocks, treasury bills, and money market mutual funds. It included advertisements from savings institutions and a few money market funds likely to be identified as a savings option.

Included were 28 advertisements of 23 institutions as listed in Table 1. Three institutions were non-insured, 5 were insured by MSSIC [Maryland Share Saving Insurance Corporation] and 15 were insured by FSLIC [Federal Savings and Loan Insurance Corporation] and one by FDIC [Federal Deposit Insurance Corporation]. So the consumers' right to safety of their funds was clearly identified, leaving the consumer responsible to assess the risks between non-insured, state or federally-insured savings programs. The three non-insured institutions were investment or quasi investment institutions. Nineteen of the 20 insured institutions were savings and loan associations and only one was a bank. Most banks were not using this media to advertise for savings. Thus this study does not reflect the full array of choices available to savers in this one market of Washington D.C.

Table 1. Savings advertisements in Washington Post "Washington Business, Week of Monday, August 6, 1984."

Institution	Insurance	Page nos. of advertisements	Number of rates advertised
D = Dominion FS&L	FSLIC	8	3
S = Standard FS&L	FSLIC	8, 52	2
C = Continental Federal	FSLIC	10	4
FM = First Maryland S&L	MSSIC	11, 26	2
FR = Friendship S&L	MSSIC	11, 32, 34	8
SF = Sunrise Federal S&L	FSLIC	16	5
PS = Providence S&L	FSLIC	18	8
USA = USA Savings	MSSIC	22	3
MAX = Maximum S&L	FSLIC	24	4
FF = Family Federal S&L	FSLIC	24	1
SU = Suburban Bank	FDIC	25	1
CF = Columbia First	FSLIC	27	8
CC = Chevy Chase	MSSIC	30	1
NP = National Permanent	FSLIC	30	2
FST = First Federal S&L	FSLIC	32	1
FED = Federally Insured Network	FSLIC	33	1
GIT = Government Investment Trust	NONE	36	6
TRP = T. Rowe Price	NONE	36	1
BFS = B. F. Saul	NONE	36	3
CMT = Community S&L	MSSIC	37, 54	7
PER = Perpetual S&L	FSLIC	38	2
EQ = Equitable FS&L	FSLIC	38	6
MC = McLean S&L	FSLIC	53	2
23 institutions		28 advertisements	75 rates

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ANALYSIS OF ADVERTISED RATES

The quoted rates ranged from 5.25% to 15.5%. Of the 78 rates, only 3 were the same, giving consumers 75 different rates from which to choose.

A full analysis of these different rates was made to deduce the non-advertised, but basic elements of the savings programs being offered. The basic elements consisting of annual rate, annual yield, compound frequency and day base are presented in Table 2. The quoted rates are used to array the data from the low of 5.25% to the high of 15.5%.

The frequency of the various compounding and day base computing methods is summarized in Table 3. The "Cents-ible Interest" or its equivalent, as discussed below, is computed for each advertised rate. It is shown in Table 2, and again in Table 4 where it is used as the basis for making the array of Cents-ible Interest© rates ranging from the low of 1.458 cents to the high of 3.952 cents.

Compound Frequency and Day Base

The facts given in the advertisements were checked for internal consistency, such as whether an advertised yield of 5.47% could be obtained from a nominal 5.25% rate as advertised. By this process, related facts given about compound frequency and day base were confirmed. If the facts were not given, this same process was used to deduce what facts should or could have been provided in such a situation. Such deduced information is distinguished from explicitly revealed information by the use of parentheses. For example, CF's advertised 5.25% could yield the advertised 5.47% only if a 365/360 day base were used. But because the day base was not disclosed in the advertisement, it appears on the first line of Table 2 in parenthesis to show that 365/360 was information supplied by the researcher. However, USA's 7.50% would yield the advertised 7.79% with the advertised daily compounding with 365/365 day base. Since a 365/365 day base is assumed to be "normal" or "expected", the space in Table 2 for USA's 7.50% is blank in the column headed "Day-base if other than 365/365".

Verification Procedure. The yield was verified by using an inexpensive Texas Instrument BA-35 "Student Business Analyst" pocket calculator. Set in the finance mode, the procedures were: First, enter the number of compounding periods in a year as N; Second, divide that number into the quoted annual rate to compute the "periodic percentage rate" and enter it as %i; Third, enter $100 as the Present Value PV; and Fourth, press the CPT key followed by FV to compute the Future Value. The difference between the computed Future Value FV and the Present Value PV is the amount of earnings on $100 for a year which is the Annual Percentage Yield. These words and concepts are consistent with those defined in "Table Terminology" on page 8 of Check Your Interest, (1978) as defined in the Model State Truth in Savings Act, (1980) and as used in Chapter 8 of Business Analyst Guidebook (1985).

Table 2. Advertised savings rates, arrayed by quoted nominal rate.

Institution	Quoted Rate %	Yield %	Compounding frequency	Day-base other than 365/365	Cents-ible Interest© c/$100/Day
CF	5.25	5.47	DY	(365/360)	1.458
USA	7.50	7.79	DY		2.054
CF	8.00	8.45	DY	(365/360)	2.222
FR	9.50	9.92	(MO)		2.592
USA	9.50	9.96	DY		2.602
C	9.75 3 mos..	10.39	CONT	(365/360)	2.708
TRP	9.87	10.36	(DY)		2.701
EQ	9.90	10.56	CONT	(365/360)	2.750
ST	10.00	10.51	DY		2.739
CF	10.10	10.78	DY	(365/360)	2.805
GIT	10.20	10.69	MO		2.783
GIT	10.24	10.74	MO		2.793
PF	10.25	10.79	(DY)		2.808
CF	10.25 1-3 mos.	10.95	DY	(365/360)	2.847
PS	10.44 3 mos.	11.00	DY		2.859
C	10.50 6 mos.	11.23	CONT	365/360	2.917
SF	10.55	11.08	MO		2.880
GIT	10.75	11.30	MO		2.932
CF	10.75 6 mos.	11.51	DY	(365/360)	2.986
CC	10.60	11.35	(MO)		2.946
S	10.65 30-day	11.40	MO		2.958
PER	10.65 6 mos.	11.46	DY		2.972
PS	10.88 6 mos.	11.50	DY		2.983
GIT	10.90	11.46	MO		2.973
FR, FM	11.00	11.57	MO		3.000
USA	11.00	11.63	DY		3.013
SF	11.15 30-day	11.74	MO		3.041
C	11.25 1 yr.	12.08	CONT	365/360	3.125
MAX	11.34	12.00	DY		3.106
SF	11.40 6 mos.	11.90	Q		3.080
C	11.50 1.5-5 yrs.	12.37	CONT	365/360	3.194
FST	11.50 180-day	(11.83)	(SA)		3.065
CMT	11.60	12.24	(MO)		3.163
SF	11.65 1 yr.	12.17	Q		3.146
EQ	11.70 1 yr.	12.50	CONT	(365/360)	3.250
D	11.75 90-180 days	(12.29)(12.10)	(Q)(SA)		3.173/3.129
MC	11.75 90-day	(12.29)	(Q)		3.173
CF	11.75 12 mos.	12.65	DY	(365/360)	3.263
PER	11.80 1 yr.	12.52	DY		3.232
EQ	11.80 2 yrs.	12.71	CONT	(365/360)	3.278
PS	11.83 3 yrs.	12.56	DY		3.241
CF	11.90 24 mos.	12.82	DY	(365/360)	3.305
PS	11.91 1 yr.	12.65	DY		3.263
CMT	12.00 1 mo.	(12.68)	(MO)		3.271
EQ	12.00 90-day	(12.55) 12.00	(Q)A		3.239/3.105
MAX	12.00 12 mos.	12.55	(Q)		3.239
PS	12.00 5 yrs.	12.75	DY		3.287
CF	12.00 36 mos.	12.94	DY	(365/360)	3.333
GIT	12.08	12.77	MO		3.283
PS	12.22 10 yrs.	13.00	DY		3.347
MP	12.25 90-day	(12.82)	(Q)		3.307
MAX	12.25 18 mos.	12.82	(Q)		3.306
EQ	12.25 5 yrs.	13.22	CONT	(365/360)	3.403
CMT	12.50 2 mos.	(13.16)	(2/12)		3.390
D	12.50 90-180 day	(13.10)(12.89)	(Q)/(SA)		3.373/3.323
MP, EQ	12.50 180-day	(12.89)12.50	(SA)/A		3.322/3.227
MAX	12.50 24 mos.	13.08	(Q)		3.372
SF	12.50 24-48 mos.	13.10	Q		3.372
FM	12.50	13.10	Q		3.372
MC	12.75 90-365 days	(13.37)12.75	(Q)/A		3.439/3.288
FR	12.75 6 mos.	(13.16) 12.75	(SA)/A		3.386/3.288
MP	12.75 12 mos.	(12.75)	A		3.288
SU	12.75 60 mos.	13.58	MO		3.475
FR	12.875	12.875	A		3.318
CMT	13.00 3-6 mos.	(13.64)(13.48)	(3M)(6M)		3.505/3.489
BFS	13.00 1 yr.	13.00	(A)		3.348
FR	13.00 1.5 yrs.	14.09	(DY)	(365/360)	3.611
FR	13.125 2.5 yrs.	14.23	(DY)	(365/360)	3.645
CMT	13.25 6-8 mos.	(13.88)(13.53)	(6M)(8M)		3.616/3.479
CMT	13.375 9-11 mos.	(13.59)(13.44)	(9M)(11M)		3.492/3.457
CMT	13.50 12-18 mos.	(13.50)(13.08)	(12M)(18M)		3.469/3.368
FED	13.65	(14.58)	MO		3.730
D	14.00 4-7 yrs.	(11.75)(10.25)	(4Y)(7Y)		3.046/2.873
GIT	14.51	15.52	MO		3.952
BFS	15.00 2 yrs.	(15.00)	(A)		3.929
BFS	15.50 3-10 yrs.	(15.50)	(A)		3.948

Notes: See Notes to Table 4.

Most of the advertisements quoted a yield along with the rate, thus enabling one to deduce the method of compounding and day base if these were not explicitly stated. Various combinations of day base and compound frequency were used until one was discovered that brought the rate and yield into harmony. If the yield was not quoted and the computing method not fully stated, one can only speculate about the true facts. For example, FST advertised "APR, Simple Annual Rate" of 11.5% for a 180-day term without designating the day base. If the day base is 360/360, then 180 days is one-half a year, and the yield from semi-annual compounding is 11.83%. A similar yield would be obtained if they were on a 365/365 day base. But if they were on a 365/360 day base, the yield would be 12%, reflecting the higher yield from the five extra days. Similar problems arise in interpreting D's 11.75% which could be semi-annual or quarterly compounding, and CMT's 12% one-month plan. For these and similar situations, an annual yield was calculated and the figure shown in parentheses.

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Some institutions consider it unethical to quote the yield for a full year when in fact the term of the certificate is less than a year. Indeed, several advertisements footnoted such yields with these cautionary words: "These annual yields assume reinvestment of principal at maturity at the same rate". In the opinion of this author, such apprehension reflects a misunderstanding of the hypothetical nature underlying the annual percentage yield concept. The yield tells how much interest would be earned on $100 if held for one year even though the actual duration is but 7 days, one month, or 7 years. It is a rate which is valid regardless of the specific time span. For example, a speedster ticketed for driving at the rate of 60 miles per hour in a school zone, would find no sympathy for his defense that he did not travel the full 60 miles in the school zone, nor remained in the zone for one hour. Yield and speedometer readings are rate concepts which are valid regardless of the specifics of the situation. Ambiguity also arises because the word annual does not necessarily mean 365 days. That it a separate problem discussed elsewhere by the author. (Hearings, 1979) In this paper, annual and 365 days are synonymous.

Terminology. Even though information was given as to the compounding method or day base, the true meaning was often difficult to ascertain. For example, an institution which compounded monthly advertised: "And you'll earn a bonus rate on your entire balance everyday". That same institution also advertised for another offering: "Dividends earned daily, compounded monthly". This may or may not be the same method as advertised by another institution: "Interest compounded and credited monthly," which obviously is different from, but might be identified with "Compounded daily and credited monthly".

And although an advertised "average daily rate" suggests daily compounding, the quoted yield was deduced to be based on monthly compounding. Other expressions used in advertisments included "simple interest," "continuous compounding 365/360," "monthly compounding," "quarterly compounding," "compounded daily" (but without reference to 365/360 day base used).

The frequency of advertised rates by compounding methods is summarized in Table 3. Not shown in this table, however, is the frequency of whether the facts were disclosed in the advertisement or discovered by the researcher. Of the 18 rates using the most favorable 365/360 method, only 4 advertised that fact. And of the 25 rates compounding daily, 4 did not so disclose. However, 13 of the 16 rates compounding monthly and 6 of the 7 compounding quarterly were disclosed. Only two of the 22 annual rates were so described.

Rate Terminology

The most frequently quoted rate is what is technically known as the nominal (in name only) annual (generally, but necessarily, a 365-day year) percentage rate. It is often referred to in savings as the "simple annual rate", or "annual rate of simple interest", and in credit as the "APR" or "Annual Percentage Rate". Regulations have required that this yearly rate be as prominent or more prominently displayed. That is, the yield rate should not predominate.

Table 3. Compounding and day-base computing methods

Compound method	Day-base method	Rates advertised
Continuously	365/360	8
Daily	365/360	10
Daily	365/365	15
Monthly	----	16
Quarterly	----	7
Semi-annually	----	0
Annually	----	22
ALL		78

The rate actually paid, however, is the "periodic percentage rate" or PPR. When the PPR is annualized by multiplying it by the number of compounding paying periods in a year, it becomes the "Annual Percentage Rate". The yearly rate and the pay-rate are the same if there is annual compounding. The pay-rate is almost never disclosed in advertisements. But the State of New York does require its disclosure in literature given inquiring consumers and in the savings contracts where it is essential for validating the actual interest paid. New York does not require its disclosure in advertising. [Truth in Savings, A Comparative Analysis of the Model State Act and The New York State Act and Regulations, 1980]

The yearly rate was variously advertised. Of the 28 advertisements, 9 stated a number with or without a percentage sign, but with no descriptive name. The nomenclature used in the other 19 advertisements is listed below with multiple frequency noted in parentheses:

"Current Rate" (4)
"Rate" (3)
"Annual Interest Rate" (2)
"Annual Rate" (2)
"Interest Rate"
"Interest Rate per annum"
"per annum Simple Interest"
"Bonus Rate"
"APR Simple Interest"
"Annual Percentage Rate"
"Average Daily Rate"
"Current Yield"

In summary, there were 11 different expressions of presumably the same concept, which in the Model State Truth in Savings Act (1980) is defined as "Annual Percentage Rate".

Yield Terminology

The yield expresses as a percentage the amount of interest that hypothetically $100 would have earned in a 365-day year. It need not be quoted. But if it is quoted, Regulation Q prohibits its being in greater prominence than the nominal rate. The seven advertisements not quoting the yield were not compounding so the annual yield was the same as the quoted rate. One debatable exception was an offer to pay interest monthly "for a higher yield". The yield was most frequently expressed as:

"Effective Annual Yield" (9)
"Annual Yield" (6)
"Yield" (5)
"Annualized yield"
"Current Yield"
"Effective Yield"
"Compounded Yield"
"Consistent Average Yield"
"Taxable Equivalent Yield"

All of these suggest the same meaning; but the validity of such a conclusion would require additional information, such as responses to the 13 questions listed in Check Your Interest (1978).

In summary, there were 10 different expressions or non-expressions of what is defined in the Model State Truth in Savings Act (1980) as "Annual Percentage Yield".

Choosing Between Rates

With 75 different rates and only 3 duplicates, savers in the Washington area had many opportunities from which to choose. Rates, of course, are not the only determinant of where to save. Prior consideration must be given to safety of principal, convenience, minimum deposits, fees, miscellaneous charges, and time constraints on liquidity along with penalty for early withdrawals. Beyond these considerations, the saver is confronted with balancing rate questions with incomplete and variously expressed information about compound frequency, day base and yield. For example, a quick comparision of three savings instruments advertised as paying 11.40%, 11.34%, and 11.25% would suggest them to be in the correct order of priority. But if they are compounded quarterly, daily and continuously 365/360, the yields would be 11.90%, 12.00% and 12.08%, respectively. So the correct yield priority is just the reverse of the nominal rate priority. Likewise, 12.75% would clearly seem to be preferrable to 12.00%, yet the amount of interest earned from each might be the same or even greater from the 12%. If the essential factors are undisclosed and unavailable, choices are likely to be based on speculation at best. But even if the essential facts are disclosed, the question remains of how to weigh such factors and draw valid conclusions. With an estimated 7.8 million different ways of computing interest (Morse, 1984) making correct choices is beyond the ability of most savers, even if assisted with a calculator. A means of providing some simplification is demonstrated in the next section.

CENTS-IBLE INTEREST©

Cents-ible Interest© has been proposed to provide a standard for comparing rates. It expresses in Cents per $100 per Day the rate which if compounded daily would generate the earnings advertised. For example, 12% compounded daily at 3.288 cents per $100 per Day will pay the same amount of interst as 12.75% compounded annually.

This rate format was challenged on the basis that is was unconvential and it would confuse consumers. This conjecture was rejected on the basis of results from over 2,000 tests administered in 20 states. (Morse,1984)

Cents-ible Interest© values are calculated by reversing the process described for verifying yields or deducing the basic computation method. First, the yield rate is added to $100 and entered as the Future Value (FV), thus reflecting the growth from the $100 Present Value (PV). The growth is the result of compounding for 365 days (N) at the to-be-computed daily percentage rate (%i). This daily rate, multiplied by 100, gives a read out of Cents per $100 per Day or Cents-ible Interest©. Thus, a yield of 12.75% is the result of compounding daily at the daily rate of .032888% or 3.288 cents regardless of how, in actual fact, it may have been compounded. [The computation steps are as follows: FV (112.75), PV (100), N (365), compute % i = .03288 x 100 = 3.288 cents.] Another example is a 90-day 12% CD which would yield $3.00 in one-fourth a year. Growth to $103 from $100 in 90 days has a Cents-ible Interest© Equivalent of 3.284 cents. [FV (103), PV (100), N (90), compute %i = .03284 x 100 = 3.284 cents].

The 78 rates from the 23 institutions are listed in Table 4 in order of increasing Cents-ible Interest©, ranging from 1.458 cents to 3.952 cents. Cents-ible Interest© rates are directly comparable because they share the same standard; the quoted rates are not comparable.

Technically speaking, there are two kinds of Cents-ible Interest© figures shown in Tables 2 and 4: (1) those which are the true pay-rate, that is, the rate used in daily compounding on daily balances, and (2) those which are the Cents-ible Interest© Equivalent rates; that is, the Cents-ible Interest© rate needed to generate the annual yield produced by any method of computing interest other than daily compounding of daily balances. For example, because 12% compounded daily yields 12.75%, the daily rate for it would be the same as for 12.75% compounded annually. To distinguish them, the word "equivalent" or subscript "e" is appended. Thus, the "equivalent" serves fair warning that although the instrument's earnings are equivalent of that daily rate, they are actually paid other than daily.

Table 4. Advertised savings rates arrayed by Cents-ible Interest*.

Institution	Cents-ible Interest** c/$100/Day	Yield %	Compounding frequency	Day-base other than 365/365	Quoted rate %
CF	1.458	5.47	DY	(365/360)	5.25
USA	2.054	7.78	DY		7.50
CF	2.222	8.45	DY	(365/360)	8.00
FR	2.592	9.92	(MO)		9.50
USA	2.602	9.96	DY		9.50
D	2.673	(10.25)	(7Y)		14.00 4-7 yrs.
TRP	2.701	10.36	(DY)		9.87
C	2.708	10.39	CONT	(365/360)	9.75 3 mos.
ST	2.739	10.51	DY		10.00
EQ	2.750	10.56	CONT	(365/360)	9.90
GIT	2.783	10.69	MO		10.20
GIT	2.793	10.74	MO		10.24
CF	2.805	10.78	DY	(365/360)	10.10
FF	2.808	10.79	(DY)		10.25
CF	2.847	10.95	DY	(365/360)	10.25 1-3 mos.
PS	2.859	11.00	DY		10.44 3 mos.
SF	2.880	11.08	MO		10.55
C	2.917	11.23	CONT	365/360	10.50 6 mos.
GIT	2.932	11.30	MO		10.75
CC	2.946	11.35	(MO)		10.80
S	2.959	11.40	MO		10.85 30-day
PER	2.972	11.46	DY		10.85 6 mos.
GIT	2.973	11.46	MO		10.90
PS	2.983	11.50	DY		10.89 6 mos.
CF	2.986	11.51	DY	(365/360)	10.75 6 mos.
FR, FM	3.000	11.57	MO		11.00
USA	3.013	11.63	DY		11.00
SF	3.041	11.74	MO		11.15 30-day
D	3.046	(11.75)	(4Y)		14.00 4-7 yrs.
FST	3.065	(11.83)	(SA)		11.50 180-day
SF	3.080	11.90	Q		11.40 6 mos.
EQ	3.105	12.00	A		12.00 90-day
MAX	3.106	12.00	DY		11.34
C	3.125	12.08	CONT	365/360	11.25 1 yr.
D	3.129	(12.10)	(SA)		11.75 90-180 days
SF	3.146	12.17	Q		11.85 1 yr.
CMT	3.163	12.24	(MO)		11.60
D	3.173	(12.28)	(Q)		11.75 90-180 days
MC	3.173	(12.28)	(Q)		11.75 90-day
C	3.194	12.37	CONT	365/360	11.50 1.5-5 yrs.
MP, EQ	3.227	12.50	A		12.50 180-day
PER	3.232	12.52	DY		11.80 1 yr.
EQ	3.239	(12.55)	(Q)		12.00 90-day
MAX	3.239	12.55	(Q)		12.00 12 mos.
PS	3.241	12.56	DY		11.83 3 yrs.
EQ	3.250	12.59	CONT	(365/360)	11.70 1 yr.
PS	3.263	12.65	DY		11.91 1 yr.
CF	3.263	12.65	DY	(365/360)	11.75 12 mos.
CMT	3.271	(12.68)	(MO)		12.00 1 mo.
EQ	3.278	12.71	CONT	(365/360)	11.80 2 yrs.
PS	3.287	12.75	DY		12.00 5 yrs.
MC	3.288	12.75	A		12.75 90-365 days
FR	3.288	12.75	A		12.75 6 mos.
MP	3.288	(12.75)	A		12.75 12 mos.
GIT	3.293	12.77	MO		12.08
CF	3.305	12.82	DY	(365/360)	11.90 24 mos.
MAX	3.306	12.82	(Q)		12.25 18 mos.
MP	3.307	(12.82)	(Q)		12.25 90-day
FR	3.318	12.875	A		12.875
MP, EQ	3.322	(12.89)	(SA)		12.50 180 days
D	3.323	(12.89)	(SA)		12.50 90-180 days
CF	3.333	12.94	DY	(365/360)	12.00 36 mos.
PS	3.347	13.00	DY		12.22 10 yrs.
BFS	3.348	(13.00)	(A)		13.00 1 yr.
CMT	3.368	(13.08)	(18M)		13.50 12-18 mos.
SF	3.372	13.10	Q		12.50 24-48 mos.
FM	3.372	13.10	Q		12.50
MAX	3.372	13.09	(Q)		12.50 24 mos.
D	3.373	(13.10)	(Q)		12.50 90-180 days
FR	3.386	(13.15)	(SA)		12.75 6 mos.
CMT	3.390	(13.16)	(2/12)		12.50 2 mos.
EQ	3.403	13.22	CONT	(365/360)	12.25 5 yrs.
MC	3.439	(13.37)	(Q)		12.75 90-365 days
CMT	3.457	(13.44)	(11M)		13.375 9-11 mos.
CMT	3.469	(13.49)	(5M)		13.00 3-5 mos.
CMT	3.469	(13.50)	(12M)		13.50 12-18 mos.
SU	3.475	13.52	MO		12.75 60 mos.
CMT	3.479	(13.53)	(8M)		13.25 6-8 mos.
CMT	3.492	(13.59)	(9M)		13.375 9-11 mos.
CMT	3.505	(13.64)	(3M)		13.00 3-5 mos.
CMT	3.515	(13.68)	(6M)		13.25 6-8 mos.
FR	3.611	14.08	(DY)	(365/360)	13.00 1.5 yrs.
FR	3.645	14.23	(DY)	(365/360)	13.125 2.5 yrs.
FED	3.730	(14.58)	MO		13.69
BFS	3.829	(15.00)	(A)		15.00 2 yrs.
BFS	3.948	(15.50)	(A)		15.50 3-10 yrs.
GIT	3.952	15.52	MO		14.51

Notes:

1. Information supplied by researcher is in parentheses.
2. * Cents-ible Interest©. If the savings is other than daily compounded on daily balances, the values shown are the Cents-ible Interest© Equivalent.
3. When multiple time periods are quoted, the Cents-ible Interest© Equivalent is for the option reflected in the compounding frequency column.
4. All computed values are truncated. Advertised values may have been rounded.

DISCUSSION

It will be noted that the yield rates, if quoted, follow in the same order as the order as the Cents-ible Interest© rates.

This is to be expected since the two are mathematically related:

$$APY = 100[(cents/10000 + 1)^{365} - 1]$$

However, this is true only within the context of this paper. If "annual" refers to a calendar year, the exponent might be 366 every fourth year. And some computer services might use other numbers of days. So until "annual" is defined in terms of a specific number of days, annual yield cannot be used as a reliable standard.

Secondly, many of the yields quoted in Table 2 are speculative on the part of the researcher. The practice of quoting and publishing yields varies considerably from city to city Thus until yields become a defined and required disclosure, the consumer cannot rely upon the yield quotation in making comparisons. [An earlier study reported by Butts (1975) reviewed yield quotations in newspaper advertisements and institutions' leaflets from across the nation, and information on yields is irregular at best.]

Thirdly, yield is a hypothetical, non-functional figure. Only if it is consistently defined and disclosed, could it serve as the standard for comparing options.

But comparision shopping is only one of the consumer's needs; the other is to be assured that the earnings paid are in conformity with the earnings promised. That is, the saver needs to be able to validate whether the amounts actually yielded are at the same rate as that projected for one year. Of course, if the savings contract is exactly for one year, the yield rate, which is for $100, can be used to verify the yield of the actual principal amount of the contract. But if the contract matures at some time period other than one year, as is very frequently the situation, the APY can not be used easily to calculate the amount of earnings for such odd periods of time. For example, the yield for six months is not half the APY, nor is the yield for 90 days 90/365ths of the APY. The validation process requires knowledge of the Periodic Percentage Rate, that is, the actual pay-rate. This rate must be supplied by New York State chartered banks.

Cents-ible Interest© Equivalent rates, however, can be used both as a reliable standard for comparing rates, and for validating the amount of earnings paid. For example, 3.27188 cents compounded daily will yield $12.6825 in 365 days which is the yield of 12% compounded monthly. It will compute a yield of $1.00 for one month of 30.4111 days, which is exactly the amount of interest expected from 12% compounded monthly at the end of one month [if all months are assumed to be of equal length]. And, it can be used to compute the yielded amount for any number of days.

In summary, the Cents-ible Interest© or its equivalent provides a standard for making accurate comparisons, and a rate which can be used to validate whether the interest paid is consistent with the saving contract terms. The significance of this in terms of consumers' ability to discern and use this unconventional format is documented favorably in an earlier ACCI paper. (Morse,1984)

LIMITATIONS

This discourse is limited in several respects. These are identified and discussed:

First, the data base is limited to one market area and one time period. This is readily apparent. Yet, the great diversity exposed in this limited study, could only be greater within an enlarged data base. It could never be less.

Secondly, all of the facts presented in parentheses are subject to errors of interpretation by the researcher. This limitation can be eliminated only with full disclosure, using standardized rate terminology and concepts that are clearly defined. Either until passage of the Model State Truth in Savings Act or its equivalent, or unless otherwise secret and private records of financial institutions are made available to researchers, this problem of inadequacy will remain.

Thirdly, nothing in this study touched on how much interest will actually be paid to the saver. The distance between what is advertised and what is practiced by the financial institutions remains unknown. For example, no inquiry or discussion is made of "D. Balances on which interest is paid, E. Grace Days; F. Dead Days; G. Amounts Included; H. Rounding Policy; I. Minimums; J. Miscellaneous Rules" as listed on page 11 of Cents-ible Interest© (1984) along with the other components that make up the 7.8 million different ways to compute interest. The only research study that uncovered these variants was that conducted by the New York State Banking Department (1982) using bank inspectors to verify each bank's declared procedures against actual payment practices.

RECOMMENDATIONS

The Consumer Savings Disclosure and Verification Act (H.B. 2380, 1985 Kansas Legislature) may serve as a model for establishing disclosure and computation procedures which meet the limitations revealed by this study. It would require prominent disclosure of the Cents-ible Interest© rate or its Equivalent. Disclosure of all factors bearing on the amount of interest paid would be required, but only for those savings instruments not compounded daily on daily balances and not liquid daily.

These disclosures would be printed not only in the savings contract, but in the periodic account statements sent to savers detailing the dates and amounts of account activities. If the earnings paid are other than would be expected from applying the Cents-ible Interest© rate to the daily balances, the savings institution would compute and report the effective Cents-ible Interest© Rate Equivalent for the period. Differences between the rates promised and paid would alert savers to deviant practices and their impact on earnings.

The information would enable savers to verify account activity and interest computations. And the Act would encourage verification by awarding savers a $100 bounty for their public service in detecting and reporting errors.

Finally, the Act sets forth standards not only for disclosure, but for accuracy. It establishes a tolerable "error" of one-tenth of a cent in favor of the financial institution for every day a transaction is entered. For example, an account with 30 activity days for deposits, withdrawals or other entries would be allowed no more than 3 cents less than the amount that would have been paid had all computations been carried out to 10 decimal places.

SUMMARY AND CONCLUSIONS

The first purpose of the paper, to document the variety and complexity of interest rates as advertised, was met by an intensive analysis of the 28 advertisments appearing in just one day's newspaper in a metropolitan area. The 23 institutions represented but a minor portion of all the savings institutions, yet 78 advertised rates reflected a great diversity of rate methods in use. They ranged from the most favorable continuous compounding on a 360-day basis to annual compounding, with quarterly, monthly and daily compounding on 360- and 365-day bases. The diversity in rate and compounding forms illustrated some of the 7.8 million different ways interest can be computed.

The absence of standardized terminology invites obfuscation. There were 11 different expressions for what the author would call "annual percentage rate" and 9 different expressions for what the author would call "annual percentage yield".

The second purpose, to demonstrate a comparable rate form, was achieved by reducing all rates to a standard expression of Cents per $100 per Day, called Cents-ible Interest©. All of the advertised rates were then arrayed by rates based on this standard. Previously reported research had confirmed the usefullness to consumers of the Cents-ible Interest© format over rates expressed in conventional terms.

The third purpose, to develop a positive proposal, was provided by reference to a specific legislative bill. It provides for disclosures using the Cents per $100 per Day format in advertising and preliminary discussions with savers, in the savings contracts, and in periodic reports to savers of account performance.

In conclusion, Cents-ible Interest® holds great promise of making savings advertising more valuable to consumers, both in providing more useful information and in eliminating wasteful publication of misleading and confusing literature. Furthermore, by the introduction of standard terminology, essential facts can be communicated in an easy way which would advance the efficiency of consumer education efforts, benefiting financial institutions, professional educators and laymen.

REFERENCES

Butts, Cathy Ann, *Truth in Savings - An Evaluation of Passbook Savings Literature*. Master's Thesis, 1975. (Manhattan,KS: Kansas State University Library)

House of Representatives, *Federal Supervision of Bank Advertising and Promotion Practices*. Hearings before a subcommittee of the Committee on Government Operations, 96th House Hearings, First Session, September 1979. Morse testimony and exhibits on pages: 79-119, 741-782, 909-1092.

Kansas Legislature, *The Consumer Savings Disclosure and Verification Act*, H.B. 2380, 1985. (Statehouse, Topeka, KS).

Morse, Richard L. D., *Check Your Interest*, (Manhattan, KS: Morse Publications, 1978).

Morse, Richard L. D., *Model State Truth in Savings Act*,(Manhattan, KS: Morse Publications, 1980).

Morse, Richard L. D., *Truth in Savings, A Comparative Analysis of the Model State Act and The New York State Act and Regulations*, (Manhattan, KS: Morse Publications, 1980).

Morse, Richard L. D., *Cents-ible Interest®, Cents per $100 per Day*, (Manhattan, KS: Family Economics Trust, 1984).

Morse, Richard L. D., Interest Rate Disclosure under Deregulations, *Proceedings, American Council on Consumer Interests*, 1984. pp. 187-192.

New York State Banking Department, *Interest Calculation Study*, (New York, NY: NYSBD, 2 Rector Street, 1982)

Texas Instruments Inc., *Business Analyst TM Guidebook*, (Dallas, TX: Texas Instruments, 1982)

CONSUMERS UNION V. GENERAL SIGNAL CORP: PRODUCT CRITIQUES AND THE FIRST AMENDMENT

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ABSTRACT

The development of commercial speech and its importance in the marketplace is best illustrated by the use of third party product critiques in advertisements, against the wishes of the person making the product critique. In Consumers Union of United States, Inc. v. General Signal Corporation, the Second Circuit of the United States Court of Appeals held that the court would not enjoin the defendants from broadcasting two commercials for Regina vacuum cleaners that quoted ratings published in the plaintiff's magazine CONSUMER REPORTS despite Consumers Union's "no commercialization policy". The case is the first of its kind to be decided against Consumers Union (CU) and presents important issues dealing with the First Amendment, its interplay with the "Fair Use" defense in copyright law, and the requirement of truthfulness under the Lanham Act.

INTRODUCTION

The legal issues involved in this case focus on two separate conflicts under the First Amendment. The first conflict is the right of the copyright holder to the fruits of his labor versus the rights of a user of copyrighted material. In the second conflict, the Lanham Act is designed to prevent false and misleading inducements from corrupting the basic structure of commercial information in the marketplace. The Court of Appeals relied heavily on its own precedent in Harper & Row, Publishers, Inc. v. Nation Enterprises, when it decided GENERAL SIGNAL CORP. Subsequently, HARPER and ROW was reversed by the Supreme Court, so the current status of the law in this area is in doubt. The purpose of this discussion is to determine the present state of the law with regard to the "no commercialization" policy, and whether any additional legislation is needed or would be effective in upholding such a policy. While the First Amendment issues are clearly important, the typical practice is to examine the statutory issues first, to see whether constitutional interpretation is necessary.

FACTS OF THE CASE

CU, a non profit foundation, published a report in its July 1983 issue of CONSUMER REPORTS rating various lightweight vacuum cleaners. The Regina powerteam vacuum cleaner received a check-rated rating, awarded when a product is evaluated by CU to be of superior quality and price in relation to non-check-rated models. CU also broadcast the test results over the CBS radio network and distributed them to between 300 and 400 newspapers.

Regina Company, a division of General Signal Corporation, (hereinafter Regina) decided to run an advertising campaign for Regina vacuum cleaners utilizing CU's evaluation of its product and prepared three 30 second television advertisements. The first advertisement does not mention CU's evaluation in CONSUMER REPORTS and was not challenged in the actual litigation.

The second advertisement stated that the Regina Powerteam vacuum cleaner:

> [was] the only lightweight that CONSUMER REPORTS says, Quote, was an adequate substitute for a full-sized vacuum. Consumers Union v. Gen'l Signal Corp. 724 F.2d 1044,1047(1983). (hereinafter CU v.GSC)

Accompanying the voice-over announcer was a superimposed statement on the screen for the entire time CU was quoted stating that:

> CONSUMER REPORTS is not affiliated with Regina and does not endorse products. CU v. GSC, p.1047.

The advertisement was broadcast on all three major networks starting September 27, 1983.

The third advertisement included several quotations by Consumer Reports that were displayed on the screen and read by the voice over announcer. As with the second commercial, each time CU is mentioned, a disclaimer appears that CU is not affiliated with Regina and does not endorse products. The disclaimer appears in the third advertisement for a period of 14 seconds out of the total 29.5 seconds. The third commercial was never actually broadcast.

CU publishes its "No-commercialization policy" in its monthly magazine CONSUMER REPORTS:

> We accept no advertising and buy all the products we test on the open market. We are not beholden to any commercial interest. Our income is derived from the sale of CONSUMER REPORTS and our other publications, and from nonrestrictive, noncommercial contributions, grants, and fees.
>
> Our ratings and reports are intended solely for the use of our readers. Neither the Ratings nor the reports may be used in advertising or for any other commercial purpose. Consumers Union will take all steps open to it to prevent commercial use of its materials, its name, or the name of CONSUMER REPORTS." CONSUMER REPORTS, NOVEMBER

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1985, p. 639.

Regina Company gave notice to CU that it planned to broadcast the Powerteam commercials using the CU material. On September 30, 1983, CU demanded that Regina cease and desist from airing these commercials. Regina responded to CU's demand but was told that CU had already commenced an action for injunctive relief. CU demanded a temporary and permanent injunction, compensatory damages of $5 million, and punitive damages of not less than $5 million, alleging violations of the Copyright Act, the Lanham Act and New York state law.

On October 3, 1983, the District Court granted a temporary restraining order prohibiting Regina from utilizing the advertisements. Regina, in response to CU's motion, changed the disclaimer to state that "CONSUMER REPORTS is not affiliated with Regina and does not endorse Regina products or any other products." The voiceover in the second commercial was also changed to include the word "unquote" at the end of the quotation from CONSUMER REPORTS. The District Court issued a preliminary injunction prohibiting the broadcast of the Regina Powerteam advertisements that utilized the ratings by CONSUMER REPORTS. The District Court only addressed the copyright issues, and denied Regina's claims under the First Amendment and the fair use defense, determining that the elements of copyright infringement had been established.

Regina appealed, arguing that the commercials are a fair use of copyrighted material and that ratings are facts that are not protected by the copyright laws. Regina also asserted that the Lanham Act and state law did not provide a basis as a matter of law to enjoin truthful and accurate reporting of CU's test results of its products. Regina also asserted that consumers and the public interest would be adversely affected, and that Regina would suffer irreparable injury if the injunction was allowed to remain in effect.

The appellate court reversed the issuance of the preliminary injunction, holding that CU did not establish a likelihood of success on the merits of the case based on copyright law, the Lanham Act, and New York state law. The court held that Regina's use of CU's ratings constituted fair use, an exception to copyright infringement. The appellate court relied on HARPER & ROW, PUBLISHERS, INC. v. NATION ENTERPRISES, 723 F.2d 195 (2 Cir. 1983) which approved a fair use defense in a case involving the unpublished works of President Ford's memoirs. This case was later reversed by the Supreme Court in HARPER & ROW, PUBLISHERS, INC. v. NATION ENTERPRISES, 105 S. Ct. 2218 (1985). The precise status of the fair use defense is thus unclear.

The court also held that CU did not demonstrate that the advertisements would create a likelihood of confusion under the Lanham Act due to the adequacy of a disclaimer contained in the commercial messages. The court also found that the legislature of the State of New York did not intend that a New York statute that prohibits the use of a name of a non-profit corporation would apply to a non-profit corporation whose business was the evaluation of products and the wide dissemination of those results, since the purpose of the statute was the protection of privacy of the non-profit corporation.

CU petitioned for an en banc hearing by the entire Court of Appeals for the Second Circuit. While the request was denied , a dissent was filed. The dissent noted the Congressional determination that the copyright laws should be subordinate to the First Amendment. The dissent argued that the en banc hearing should have been permitted because the "use of 'commercial free speech' to justify a fair use defense to copyright infringement stands either on copyright law or the First Amendment on its head." The dissent goes on to claim that the opinion holds that commercial use:

> [is] more entitled to the fair use defense than a use that is not. At the very least the panel opinion reads the presumption against the fairness of commercial use out of the statute. Doing so in the name of the First Amendment, I fear, cheapens that Amendment's coin. 730 F.2d 47,50 (1984). (Oakes, Circuit Judge, dissenting).

COPYRIGHT LAWS AND PRODUCT CRITIQUES

Article I, Sec. 8, of the Constitution provides that:

> The Congress shall have Power ... to Promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries.

The law of copyright grants a limited monopoly over the exclusive work of the author for a limited period as a reward for the creative ability of its creator. Such a monopoly is also deemed to be of high social value to the general public. The limited monopoly also ensures that the public will be allowed access after exclusive control of the work has expired.

The monopoly is not absolute. The Copyright Act does permit some use of copyrighted material without the owners consent. Numerous decisions established a doctrine of "fair use" of copyrighted material. These decisions are codified in the Copyright Act:

> [T]he fair use of a copyrighted work, including such use by reproduction in copies ... for purposes such as criticism, comment, news reporting, teaching ... , scholarship, or research, is not an infringement of copyright. In determining whether the use made of a work in any particular case is a fair use the factors to be considered shall include- (1) the purpose and character of the use, including whether such use is of a commercial nature or is for non profit educational purposes; (2) the nature of the copyrighted work; (3) the amount and substantiality of the portion used in relation to the copyrighted work as a whole; and (4) the effect of the use upon the potential market for or

value of the copyrighted work." 17 U.S.C. Sec. 107 (1982).

The various types of usage which can be considered fair use include but are not limited to criticism, comment, news reporting, scholarship and teaching. These examples are not a complete list of accepted uses, but are meant to exemplify those uses considered fair. The uses do not share any common characteristic. Some are commercially oriented, others are not. Some uses by their very nature are required to copy the expression, others are not. The courts decide each case based on its own merits and facts, helping the doctrine to evolve over time.

The purpose of the fair use defense is to ensure that social values protected by other legal and statutory protections and the First Amendment are not eliminated by the use of the copyright law. The Copyright Act does not go as far as the constitutional provision might permit. Since the copyright provision and the First Amendment are both in the Constitution, it is possible that Congress could have prevented any use of copyrighted material. It is clear that Congress has not done so. The Copyright Act was designed to give courts power to permit some uses of copyrighted material without consent of the copyright holder. Courts recognize that a balancing test exists with the fair use doctrine. The copyright issue presented in the Regina case is whether the advertisements fall within the Section 107 fair use exception. If so, Regina's use of the information is permitted despite the copyright protection under the Copyright Act.

Answering the question of "Fair Use" requires examination of the four section 107 factors.

Purpose and Character of the Use

This factor examines the use of the copyrighted material. The communication by Regina cannot be said to be one of "criticism" or "comment" as the advertisements extol the virtues of the Regina Powerteam vacuum cleaner, directly copying CU's comments on the product without analysis.

The advertisements may or may not constitute news of a newsworthy event, e.g., ratings of an unbiased evaluator in the lightweight vacuum cleaner industry. Fair use does not require that the user of the copyrighted material (Regina) be in the news business. Fair use requires that the subject of the report be newsworthy. "The issue is not what constitutes 'news', but whether a claim of news reporting is a valid fair use defense to an infringement of copyrightable expression." citing Patry, The Fair Use Privilege in Copyright Law, 119 (1985) in HARPER 105 S.Ct. 2231 (1985) . The Supreme Court has stated:

> [T]he news element -- the information respecting current events contained in the literary production -- is not the creation of the writer, but is a report of matters that ordinarily are publici juris; it is the history of the day. INTERNATIONAL NEWS SERVICE v. ASSOCIATED PRESS 248 U.S. 215, 234 (1918).

Certainly a news report that CU had rated a product unacceptable would be protected as fair use if published in the New York Times. The crucial question is whether the advertisements constitute a news report of a product's rating even though broadcast as an advertisement.

What distinguishes this case from most newsworthiness cases is that CU as the copyright holder actually created the newsworthy event for publication. As a practical matter, the CU publication is the event which is news, rather than the evaluation. Since the taking of the heart of a publication is normally considered a violation of the Copyright Act, such a use would tend to be unfair.

The second prong of this element is commercialization. In the SONY case the Supreme Court stated "that use of copyrighted material solely for commercial purposes is presumptively unfair". SONY CORP OF AMERICA v. UNIVERSAL CITY STUDIOS 464 U.S. 417, 104 S. Ct. 774, 808 & n. 32, 809, 813 n. 40 (1984). Perhaps this principle is better stated that non-commercial use is presumptively fair, since the holding in SONY was that the non commercial use was fair use under the Copyright Act. The court in REGINA held that while the purpose of the use was clearly commercial, the advertisements also conveyed useful information to consumers that is protected under the commercial speech doctrine of the First Amendment as recognized in VIRGINIA STATE BOARD OF PHARMACY V. VIRGINIA CITIZENS CONSUMER COUNCIL, INC, 425 U.S. 748 (1976) (VIRGINIA PHARMACY).

In REGINA, the court claimed that such a use would only increase the exposure of CU's ratings to the public at large thus bestowing a "significant public interest" and that "[S]ince the purpose is to report factual information ... it is more conducive to the concept of fair use." CU v. GSC, 724 F.2d 1044,1049(1983).

Advertising is subject to a large degree of control, even though protected by the First Amendment. While the boundaries of control of advertising have not been fully explored, restrictions which protect an orderly marketplace have been upheld.

Despite the appellate opinion, the purpose and character of the use would tend to support a finding that the use by Regina was not fair use. The primary argument is that the heart of the copyrighted work was appropriated simply to promote a product.

Nature of the Copyrighted Work

The second factor considered with the fair use doctrine is the nature of the copyrighted work. Characterization of the ratings by CU as fact, opinion, news or as research data could be essential in determining whether copying CU's expression constitutes fair use. The Copyright Act does not protect the underlying idea, only the expression of that idea. The problem occurs when the expression is the idea. The court in REGINA stated that "implicit in that decision is an acknowledgement that, where accurate reporting requires use of verbatim quotations, fair use will be liberally applied." p. 1050.

The suggestion is that the "idea" is the actual rating of the vacuum cleaner, while the expression is the copyrighted story. Permitting CU to control use of the actual rating would be akin to allowing them to control the flow of news. The idea/expression dichotomy embodies the competing interest between copyright protection and the First Amendment.

It is an axiom of copyright law that the protection granted to a copyrighted work extends only to the particular expression of the idea and never to the idea itself. ... This principle attempts to reconcile two competing social interests: rewarding an individual's creativity and effort while at the same time permitting the nation to enjoy the benefits and progress from use of the same subject matter. MAZER v. STEIN, 347 U.S. 201, 217-18, (1954) in SID AND MARY KROFFT TELEVISION v. MCDONALDS, 562 F.2d 1157, 1163 (1977). As noted in KROFFT:

[T]he idea-expression line represents an acceptable definitional balance as between copyright and free speech interests. In some degree it encroaches upon freedom of speech in that it abridges the right to reproduce the "expression" of others, but this is justified by the greater public good in the copyright encouragement of creative works. In some degree it encroaches upon the author's right to control his work in that it renders his "ideas" per se unprotectable, but this is justified by the greater public need for free access to ideas as part of the democratic dialogue." KROFFT, p.1170.

In HARPER a copyright infringement action was brought arising out of unauthorized publication of quotations from President Ford's unpublished memoirs, in an attempt to "scoop" the news story. The published account used numerous direct quotes from a pirated copy of the manuscript to add verisimilitude to the story. The Court of Appeals approved a fair use defense based on the fact that the content was factual and contained subjects of important public significance. The Supreme Court reversed, holding that the unauthorized publication of verbatim quotes from the "heart" of unpublished material effectively supplanted the copyright holders right of first publication, and thus did not constitute a fair use with the meaning of the Copyright Act, Section 107.

The Supreme Court in HARPER was clearly willing to give great deference to the financial incentives built into the copyright scheme, even at the cost of keeping facts of clear public interest concealed. HARPER can be distinguished from REGINA in that President's Ford's memoirs had yet to be published, while the information from CU had been disseminated in both the print and broadcast media. This distinction may have been critical in the court rejecting CU's request for an injunction, since the commercial value of the particular magazine that rated lightweight vacuum cleaners was not affected at the newsstand.

Since the interests so vigorously protected by Harper was the right of first publication and its attendant financial benefits, HARPER is of limited value in analyzing Regina.

If CU was in the commercial business of rating products, then it could establish any terms desired prior to accepting a product for rating, including limitations on how its rating was to be used. Terms would be a simple issue of contract law. CU, by choosing a non profit, non commercialization policy for its business is unable to control the way its copyrighted publication is used. The copyright law is a limited monopoly. The holder of the copyright cannot prevent a purchaser from buying multiple copies of the favorable publication and giving them away in stores. Acceptance of the benefits of the copyright law also means acceptance of its burdens, including the burden that the underlying idea disclosed in a copyrighted work is unprotected.

Quantity of the Work Taken

The third factor in determining whether the fair use doctrine is applicable is the amount and substantiality of the portion used in relation to the copyrighted work as a whole. The concept is that brief excerpts of a play or novel can be copied without violating the copyright of the work as a whole. Works that are naturally broken down into smaller pieces present additional problems. It is unclear whether the "whole" is the entire issue, the ratings of all lightweight vacuum cleaners, or simply those sections devoted to Regina Vacuum cleaners. This element illustrates the weakness of using the copyright law to protect CU. It is not the expression that CU is trying to protect, it is the fact of the rating. As the Court stated:

[i]n truth, CU is not really objecting to Regina's copying CU's expression. The statement of policy in its magazine and its position in its brief before us is that any mention of CU in commercial advertising will diminish its effectiveness as an unbiased evaluator of products. CU v. GSC, p. 1050.

This factor is of little assistance in determining whether Regina's use is fair, since again it is the underlying idea of CU's approval that is the target of CU's lawsuit.

Effect on Demand for the Product

The fourth factor is the effect of the use upon the potential market for or value of the copyrighted work. This factor is deemed to be the most important. CU v. GSC, p.1050.

This factor was the heart of CU's case. The District Court accepted CU's argument that commercial use of the article could "be the demise of Consumers Union since such commercial use could lead the public to view Consumers Union as [an] unfair tester of products." CU v GSC, 83 Civ. 7209 (S.D.N.Y. Oct. 12, 1983) at 11 (trial court opinion).

The Court of Appeals determined that the district court erred in its conclusion since the fourth factor is aimed at a copier who is attempting to usurp the demand for the original work, e.g., the specific issue of CONSUMER REPORTS. Since CU had already published its test results on lightweight vacuum cleaner products, it is difficult for CU to establish harm since advertising of those results occurred after publication of the magazine. Since CU is sold at newsstands and by subscription, it may be impossible to establish any reduction in sales. The Court of Appeals distinguished the case where the copyright owner and the copier are competitors in the market for the copyrighted material. CU and Regina are not competitors. The Court of Appeals found that CU did not even allege in its complaint harm to any work currently copyrighted, but rather the value of harm to future issues of CONSUMER REPORTS. However, the copyright law protects only individual cases of expression, not a way of doing business.

The Court of Appeals recognized that the only damages being asserted under the copyright claim were to CU's future publications:

> The only alleged injury which CU truly presses is that Regina's use may lead to public perception of endorsement. Truthful excerpting of CU's ratings cannot hurt CU unless the public perceives that CU sponsored the use. CU v. GSC, p. 1051, n. 7.

Even if the Copyright Act could be read as covering future issues along the same theme, it is questionable whether widespread advertising of CU's test results and unbiased reporting in CONSUMER REPORTS by manufacturers/retailers would usurp publication demand. It could be suggested that the widespread adoption of CU's ratings would lead to greater, not less, influence over the marketplace. Underwriters Laboratories, another nonprofit testing laboratory, dominates the field of electrical product testing despite the exact opposite approach to publication as CU. Its labels appear on all its listed products. In Europe, testing labels from consumer organizations are found on many products.

On the other hand, widespread advertising of test results for a wide variety of products may arguably usurp the demand for CU's publication since those who advertise will generally be those with the most favorable ratings, therefore making it unnecessary for subscribers to purchase the magazine due to alternative sources of the same information. While this argument may be somewhat speculative, the decision presumes that the effect of Regina's use upon the potential market for the copyrighted work is de minimis, as consumers are able to order back issues of the magazine. However, widespread advertising for a particular product that receives a favorable rating by CU eliminates the need for the consumer to order any such back issues. At best, the opinion may take too narrow a scope of the market demand issues.

FAIR USE AND PRODUCT CRITIQUES

The use of copyright law by CU to prevent republication of their opinions is virtually unique since CU, in a sense, is trying to suppress truthful commercial speech to protect its own independence. This attempted suppression clearly conflicts with the usual interpretations of the Copyright Act. CU is not attempting to protect its economic well being, but is attempting to preserve a particular method of doing business. This is not the purpose of the copyright law.

Copyright laws and the First Amendment represent competing interests in a free market economy that values information in a "marketplace of ideas." The ultimate issue under fair use is whether the public interest in truthful discussion, even in the commercial marketplace, outweighs other concepts which try to restrict truthful advertising to protect other values. For the most part, the Supreme Court has rejected that position. The fair use section is essentially the accommodation of copyright to First Amendment requirements.

The Supreme Court in VIRGINIA PHARMACY extended First Amendment protection to commercial speech, citing the strong public interest in the dissemination of truthful and accurate commercial information:

> So long as we preserve a predominantly free enterprise economy, the allocation of our resources in large measure will be made through numerous private economic decisions. It is a matter of public interest that those decisions, in the aggregate, be intelligent and well informed. To this end, the free flow of commercial information is indispensable. (cites omitted) And if it is indispensable to the proper allocation of resources in a free enterprise system it is also indispensable to the formation of intelligent opinions as to how that system ought to be regulated or altered. Therefore, even if the First Amendment were thought to be primarily an instrument to enlighten public decisionmaking in a democracy, we could not say that the free flow of information does not serve that goal. VIRGINIA PHARMACY, p. 765.

The Court has reaffirmed repeatedly the role of the First Amendment in the marketplace:

> Neither a labor leader's exhortation to strike, nor an economist's dissertation on the money supply, should receive any lesser protection because the subject matter concerns only the economic interests of the audience. Nor should the economic motivation of a speaker qualify his constitutional protection; even Shakespeare may have been motivated by the prospects of pecuniary reward. CENTRAL HUDSON GAS AND ELECTRIC CORP. v. PUBLIC SERVICE COMM'N OF NEW YORK, 447 U.S. 557 (1980).

The Supreme Court in BOLGER v. YOUNGS DRUG PRODUCTS CORP., 463 U.S. 60 (1983) examined a federal statute that prohibited the mailing of unsolicited advertisements for contraceptives. The advertisement included not only the particular vendor's products, but informational pamphlets discussing the availability of prophylactics in general. The Court found that the mailings constituted commercial speech notwithstanding the fact that the pamphlets contained discussion of "important public issues" such as venereal disease and family planning. The Court unanimously declared the statute unconstitutional, affirming its support for the most robust type of commercial debate, even when the debate is offensive to some listeners, or might expose children to what are normally adult topics: "The level of discourse reaching a mailbox cannot be limited to that which would be suitable for a sandbox." BOLGER, p.74.

Given that fair use is designed to accommodate the First Amendment interests of a speaker, and given special role of advertising in our marketplace, CU's desire to be "above the marketplace" cannot survive the changes in the field of advertising law over the past few years. Doctors, lawyers, pharmacists and other professionals now advertise in the marketplace just like plumbers and auto dealers. The economic marketplace is regarded as important to citizens' well being as the political campaign. CU desires to influence the marketplace, while not being part of it. The Copyright law simply will not stretch that far. If CU is to find protection, it must be in another quarter.

LANHAM ACT

Truth in Advertising

CU also asserted claims under Sec. 43(a) of the Lanham Act which prohibits express and implied false representations made in connection with the sale of goods. Those who misrepresent can be held liable to those damaged by the misrepresentation.

One of the most important limitations on commercial speech is the requirement of truth. While commercial advertising does receive First Amendment protection under VIRGINIA PHARMACY and subsequent cases, it is clear that misleading advertising does not fall within the ambit of the First Amendment. The government is also free to ban commercial communication that is more likely to deceive the public rather than inform it. FRIEDMAN v. ROGERS, 440 U.S. 1, 13, 15-16(1979).

Under the Lanham Act, Sec. 43(a) covers not only those advertisements that are blatantly false, but also those that embrace "innuendo, indirect intimations, and ambiguous suggestions." AMERICAN HOME PRODUCTS CORP. v. JOHNSON & JOHNSON, 577 F.2d 160, 165 (2d Cir. 1978) in VIDAL SASSOON , INC. v. BRISTOL-MYERS CO., 661 F.2d 272, 277 (1981). The court in SASSOON held that "where depictions [in advertisements] of consumer test results or methodology are so significantly misleading that the reasonably intelligent consumer would be deceived about the product's inherent quality or characteristics, an action under Sec. 43(a) may lie." SASSOON, p. 278.

In MENNEN v. GILLETTE, 565 F. Supp. 648 (1983), the district court held that under Sec. 43(a) of the Lanham Act "the plaintiff [only] need establish that a non-insubstantial number of consumers would be misled" and that the "capacity to deceive is not tested by reference to the average consumer but rather must be construed to protect the vast multitude which includes the ignorant, the unthinking and the credulous." MENNEN, p. 655.

The standard for commercial speech under the Lanham Act is therefore a high level of truth. Many of the commercial uses of CU's ratings have been false or misleading. There is no question under the Lanham Act that those uses can be effectively suppressed. AMANA REFRIGERATION INC., v CONSUMERS UNION OF THE UNITED STATES, 431 F.SUPP. 324 (1977).

Disclaimer

In REGINA the most important misrepresentation claimed by CU was that CU evaluates products in general and does not endorse certain products in particular such as Regina vacuum cleaners, and that the disclaimer by Regina was not sufficient to dispel the misrepresentation.

The Court of Appeals determined that the disclaimer used in the advertisements was sufficient to eliminate the possibility of a likelihood of confusion regarding the source or sponsor under the Lanham Act. Disclaimers in commercial advertising may be required in order to insure accurate commercial information.

In BATES v. BAR OF ARIZONA, 433 U.S. 350,(1977) the Supreme Court explicitly did not "foreclose the possibility that some limited supplementation, by way of warning or disclaimer or the like might be required" in promotional advertising. BATES, p.384.

In BROOKLYN UNION GAS, 478 N.Y.S.2d 78 (A.D. 3 Dept. 1984), the New York court held that a requirement that a gas utility in an advertisement based on the price advantage of natural gas include a disclaimer that such an advantage may deteriorate as a result of deregulation did not violate the gas utility's constitutional right of expression. The requirement of a disclaimer was determined to be constitutional even though the advertisement was not deceptive in the absence of the disclaimer and was therefore protected by the First Amendment under the commercial speech doctrine. The state was held to have a substantial interest in providing complete information to consumers. The court also found that the restriction directly advanced the state's interest in complete information for a regulated industry and was limited and carefully drawn to remedy the situation that the regulatory body sought.

In BETTER BUSINESS BUREAU OF METROPOLITAN HOUSTON, INC. v. MEDICAL DIRECTORS, 681 F.2d 397 (5 Cir. 1982), the court held that an advertisement that a "BBB" spy had concluded that a weight loss clinic "really works" was misleading, but held that an injunction forbidding all use of the words "Better Business Bureau" violated the First Amendment. The injunction was modified to require a disclaimer that the BBB did not endorse the clinic.

The question in REGINA is whether the disclaimer was sufficient in order to dispel any semblance of misleading the consumer. A "complete" disclaimer which essentially included a copy of CU's entire non-commercialization policy would clearly be non-deceptive and truthful. The question remains whether anything less than a display of the entire non-commercialization policy is truthful advertising. If the disclaimer is determined to be insufficient, and therefore the advertisement is misleading, the advertisement does not fall within protection of the First Amendment.

Like the Copyright Act, the Lanham Act provides only limited protection to the CU position. Under the Lanham Act, truth is the standard, not protection of CU's independence.

CONCLUSION

Consumers Union's non-commercialization policy was adopted and flourished during the era when commercial speech was highly regulated. The deregulation of commercial speech under Virginia Pharmacy has opened a new era in First Amendment analysis of the marketplace. The fair use doctrine of the copyright law is sensitive to developments in First Amendment analysis. The more protection given to advertising under the First Amendment, the more fair will be the use of truthful relevant information. While Congress could amend the Copyright Act to give greater protection to CU, until that time CU will need to use means other than injunctions to protect its independence and enforce its non-commercialization policy.

LIFELINE RATES IN BANKING AND TELECOMMUNICATIONS: SOCIAL BASES OF SUPPORT AND OPPOSITION

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ABSTRACT

This study examines some of the social bases of support for and opposition to lifeline programs in banking and telecommunications. The empirical results show that income and education are inversely related to support for lifeline programs. In addition, people who classify themselves as political conservatives are less likely to support such a proposal than are political liberals.

A major goal of current regulatory policy in the United States is to increase competition and efficiency in previously-regulated markets. The airline, trucking, energy, health care, telecommunications, and banking industries are all experiencing the growing pains associated with operating in a more fully competitive marketplace.

A transition to a more competitive environment should increase the efficient use of resources and thereby benefit consumers in the aggregate. Nevertheless, allowing market forces to operate may leave some consumers worse off. For example, before airline deregulation, service to some small communities was subsidized with revenues from more profitable routes. Under deregulation, many of these communities lost some or all of their commercial airline service.

The loss of regulation-created subsidies may create problems of access for low-income customers. Consequently, deregulatory efforts have generated a number of proposals designed to address issues of equity and access. For instance, the movement of the banking and telecommunications industries toward cost-based systems of pricing has generated proposals for no-cost or low-cost service options for low-income customers, often referred to as "lifeline" rates.

While most lifeline proposals are decided by legislative or regulatory bodies, little is known about the extent of public support for and opposition to such proposals. Furthermore, what are the reasons why individuals unlikely to be eligible for such lifeline programs might support their establishment? This study examines some of the social bases of support for and opposition to lifeline programs in banking and telecommunications, and thereby casts light on the more fundamental issue of public preference for social welfare programs.

BACKGROUND

Current Status of Lifeline Programs

The idea of a lifeline rate first received widespread attention in the aftermath of the 1973-74 energy crisis and was motivated by two concerns. The first concern was the impact of rising electricity and natural gas prices on low-income consumers [15]. It was argued that an amount of energy sufficient for basic lighting, heating, and refrigeration should be available at a low price as a matter of equity. The second motivating concern behind energy lifeline proposals was efficient use of resources. At the time, most utilities used declining block pricing, a rate structure which encouraged energy consumption and discouraged efficient energy use. Some regulators viewed lifeline rates as one method of making rates more reflective of the actual costs of producing and distributing energy [8, 11]. If the per unit price was directly related to the quantity purchased then everyone, regardless of income, would have an incentive to conserve energy.

Lifeline rates for energy were adopted in several states and cities during the 1970's [1, 3]. Furthermore, lifeline energy rates received federal approval in the Public Utilities Regulatory Policy Act of 1978. The Act specified that any state-regulated utility which did not have a lifeline rate in effect within two years would have to "determine, after an evidentiary hearing, whether such a rate should be implemented" (Public Law 95-617, Section 114).

Current justifications for lifeline telephone service are similar to those for energy lifelines. First, it s argued that lifeline telephone rates would help keep service affordable to low-income customers during a period in which the break-up of AT&T is expected to increase local telephone rates sharply [5]. Moreover, the argument has been made that insuring universal telephone access generates external benefits for all users of the telephone system by increasing the number of people who can be called [14]. A second justification for lifeline rates is that they are consistent with a more general shift toward efficient pricing of telephone usage based on the cost of providing service. To better reflect these costs, many local telephone companies currently advocate that local telephone service be metered (similar to the way long-distance calls are metered), as opposed to offered on a flat fee basis.

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[1] Cathleen D. Zick is an Assistant Professor and Robert N. Mayer and John R. Burton are Associate Professors in the Department of Family and Consumer Studies. The data used in this study were collected by the University of Utah Survey Research Center. Ken R. Smith and three anonymous reviewers gave helpful comments on an earlier draft of this manuscript.

Proposals for local measured service typically allow basic access to the local telephone network at a low rate, thereby essentially creating a form of lifeline service.[2]

Lifeline telephone rates have already been implemented in California, New York, Wisconsin, and Arkansas, and they are being studied in other states. A federal bill containing a means-tested telephone lifeline requirement was passed by the House in 1983 (H.R. 3621) and has been reintroduced in the 99th session of Congress (H.R. 151). The Federal Communications Commission has also appointed a panel to determine whether the Commission ought to require some form of lifeline service [4].

Unlike the multiple justifications for both energy and telephone lifeline rates, current proposals for lifeline services in banking are motivated almost exclusively by concern for low-income consumers. Lifeline banking proposals are a response to rising charges for maintaining checking accounts and/or small savings accounts, and automatic teller machine use--changes induced by deregulation [2, 7].

Massachusetts enacted the nation's first lifeline banking law in 1984 [4]. The law uses age (under 19 and over 64) rather than income as the criterion for free checking and savings accounts. Since many banks already offer free accounts to minors and senior citizens [7], the Massachusetts law does not greatly increase consumers' access to banking services. In California, a law was proposed that would have made a "baseline account" (including eight free checks per month) available to any consumer who made an initial deposit of $25. Similar lifeline legislation has been introduced but not enacted in Connecticut, New Hampshire, and New York [12]. There has also been agitation for lifeline banking rates in the United States Congress, two bills having been recently considered in the House (H.R. 2011 and H.R. 2661).

THE MODEL

The fate of lifeline proposals for banking and telephone services is likely to depend, at least in part, on public opinion. Since lifeline policies typically require a majority of consumers to subsidize a minority (e.g., elderly, low-income, and/or unprofitable customers) through higher rates, one might expect support for such policies to be minimal. How then does one account for the high level of interest in lifeline policies at the federal, state, and local level? And what characteristics distinguish lifeline supporters from opponents?

Factors Influencing Support for Lifeline Policies

There are no studies of public attitudes toward lifeline proposals per se. Nor is there a theoretically grounded body of research that examines the correlates of public opinion regarding social welfare programs in general. Given the absence of any theoretically-grounded explanations for why people support welfare programs in general or lifeline programs in particular, the strategy adopted here is to proceed in an exploratory fashion and to test a simple model. Essentially, we want to understand why individuals support or oppose transfer programs which are likely to benefit a minority at the expense of the majority.

The initial premise is that an individual's "demand" for the implementation of a means-tested lifeline program in banking or telecommunications depends on perceptions of the personal costs and benefits of that program. These costs and benefits may be direct and concrete or indirect and intangible. In this spirit, we have attempted to identify factors which affect the probability that an individual will benefit from and pay for the establishment of means-tested lifeline rates.

Probability of Benefit

There are at least four factors which could influence the probability that an individual would benefit from means-tested lifeline policies: (1) household income, (2) age, (3) area of residence, and (4) educational attainment. Some of these factors should affect the probability of directly benefiting from lifeline policies while others may have a more subtle, indirect influence.

First, qualifications for a means-tested lifeline program are usually established by assessing total household income, with some adjustment for household size. In assessing their own probability of qualifying for such a program, respondents are likely to base their judgment on their total income, without making the relatively complicated "income-to-needs" adjustment. Thus, if peoples' attitudes about lifeline service reflect their own subjective assessment that they might benefit from such a program, then one would expect an inverse relationship between household income and level of support for lifeline programs, holding other factors constant.

Prior to the recent spate of means-tested lifeline proposals, subsidies in the energy, banking, and telecommunications industries were based on age or area of residence. For example, in many cases people living in rural areas historically have paid the same amount for basic telephone service as have people in urban areas even though the cost of service to rural areas has always been much higher. Similarly, some banks have had a long-standing practice of providing low-cost or no-cost service to children and senior citizens. As members of such special interest groups face higher, unsubsidized prices in deregulated environments, they might perceive means-tested lifeline proposals as increasing their own chances of receiving similar subsidies. It is therefore hypothesized that older people and people living in rural areas will be more likely to favor the establishment of lifeline service for low-income households than will younger people and people living in urban areas, ceteris paribus.

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[2] Ironically, many groups which advocate lifeline rates (e.g., The American Association of Retired Persons) oppose local measured service. These groups see telephone service as bordering on a basic human right, one which would be curtailed by any use-sensitive pricing.

Finally, it is also hypothesized that level of educational attainment will affect perceptions of the benefits of a lifeline program. Since highly-educated respondents are usually better informed about markets [8], they will more fully recognize the options available to consumers under deregulation. For instance, a highly-educated individual may know that although most banks impose charges on checking accounts, some banks offer free checking. Similarly, better educated consumers may be aware of the fact that there are low-cost options for local telephone service (e.g., two-party lines and optional measured rates). Given their greater ability to exploit any low-cost options provided by the market, more educated individuals will perceive fewer benefits from lifeline policies than less educated people, ceteris paribus.

Probability of Cost

There are at least two factors which could influence the probability that an individual would incur costs form a means-tested lifeline policy: (1) usage rates, and (2) political orientation. The first factor affects the tangible costs to the individual of a means-tested lifeline program while the second factor reflects the less-tangible ideological costs to the individual of instituting such a program.

Since lifeline programs usually entail raising prices for non-eligible customers, the direct costs of these programs are proportional to an individual's level of use. If high-use customers bear more of the program's costs they should be less supportive of lifeline programs than low-use customers, ceteris paribus. For example, if lifeline rates for local telephone service are funded by placing a tax on long-distance calls, one would expect frequent long-distance callers to be less supportive of lifeline rates than would individuals who rarely make long-distance calls.

A persons' political orientation may influence the less-tangible ideological cost of having government intervention in the marketplace. Deregulation has generally been championed by political conservatives. Many of these conservatives would view the establishment of lifeline policies as a costly step backward from their ideal of efficient, cost-based pricing in the marketplace. Thus, it is hypothesized that political conservatives will be less supportive of lifeline policies than will political liberals.

DATA, METHODS, AND ANALYSIS

The data used in the empirical work that follows come from the first wave of panel study that focuses on consumer welfare as it relates to deregulation in the state of Utah. Data on 810 adults from randomly selected Utah households were collected in the initial interview using a computer-assisted telephone interview survey method during July and August 1985. Survey respondents answered questions about their knowledge, behavior, and opinion regarding the banking and telecommunications markets. Among the questions asked were two concerning telephone lifeline legislation and one about banking lifeline legislation.

Two questions were used to measure opinion about telephone lifeline rates because the Utah Public Service Commission was considering two different methods of funding such a program--the first would raise monthly flat rates while the second would tax each long-distance call. The exact wording of the two telephone lifeline questions posed to panel members were:

> Some states are considering lowering telephone rates for low-income people to make sure they can afford local telephone service. Assuming that having these reduced rates would increase the local telephone bills of other customers by 25¢ a month, would you strongly favor, somewhat favor, somewhat oppose, or strongly oppose these special rates for low-income consumers in Utah?
>
> How would you feel about having these special rates for low-income people in Utah if it meant increasing the cost of an average long-distance call by about 2¢--would you strongly favor, somewhat favor, somewhat oppose, or strongly oppose these special rates for low-income consumers in Utah?

The cost estimates used in these two questions were provided by the Utah Division of Public Utilities.

Although other states are currently considering means-tested lifeline legislation in banking, no such proposal is pending in Utah. Thus, the question that was asked about public support for a banking lifeline policy did not specify a method of distributing costs. The exact wording of the question posed to panel members was:

> Some states are considering laws that would prevent financial institutions from charging low-income customers for checking accounts. Assuming that the cost of providing these free services would increase the costs to the average customer, would you strongly favor, somewhat favor, somewhat oppose, or strongly oppose such a law in Utah?

Combining those who "strongly favor" and "somewhat favor," 63.6 percent of the respondents were in favor of telephone lifeline legislation if it meant that it would raise the local monthly bill of the average customer by 25¢, while 36.4 percent were opposed. The corresponding figures were 67.1 percent in favor and 32.9 percent opposed when the question was phrased so that the cost would be born by those who made long-distance calls. In contrast to the generally high levels of support for telephone lifeline service, only 25.3 percent of the respondents were in favor of establishing a lifeline program for banking while 74.7 percent were opposed.

These simple descriptive statistics suggest that people's attitudes about the need for telephone service subsidies may be different from their attitudes about banking subsidies. To allow for this possibility, the test of the model is made by estimating three separate equations, one for each of the questions asked about lifeline programs. By estimating each of the equations separately it is possible to control for any commodity-based differences in support for the lifeline proposals. Commodity-based differences in levels of support might exist because of differences in perceptions about whether or not (1) the commodity is a necessity that consumers should be guaranteed access to, and (2) the current pricing structure already allows access to all who want the commodity.

The independent variables included in the three equations have been chosen on the basis of how closely they corresponded to each of the perceived benefit and cost factors discussed in the previous section. Household income for the past year, age, area of residence, and educational attainment are included in each of the three equations to assess how the probability of benefiting from the proposed program affects one's opinion about the program.

Measurement of variations in the tangible costs of the three lifeline proposals are captured by different variables in each of the equations. The first telephone lifeline equation that examines opinion about lifeline rates if they increased the average customer's local bill, includes a variable that measures the respondent's long-distance telephone bill last month. The second telephone lifeline equation that focused on opinion about lifeline rates if they increased the average customer's long-distance bill, includes two variables that are designed to measure cost variations: the number of long-distance calls made at the respondent's residence last month and the previous month's long-distance bill. The banking lifeline equation uses a dummy variable that measures whether or not the respondent currently had a checking account to control for tangible cost differences. Presumably, current account holders would have a higher probability of bearing the costs of the lifeline subsidy than consumers who cannot afford or chose to forego a checking account. In addition, political orientation dummies are included in all three equations to capture any differences in ideological costs that lifeline programs would place on respondents. Descriptive statistics and complete definitions for all of the variables used in the empirical work appear in Table 1.

TABLE 1 Descriptive Statistics

Independent Variables	Mean[b]	Standard Deviation[b]
Respondent's Age (1 = 62 years or over; 0 = otherwise)	.124	.917
Respondent's Education (years)	13.7	2.21
Politics 1[a] (1 = liberal; 0 = otherwise)	.228	.411
Politics 2[a] (1 = moderate; 0 = otherwise)	.286	.453
Household Income (dollars last year)	26,577	13,827
Long-Distance Telephone Bill Last Month (dollars)	26.9	38.5
Number of Long Distance Calls Made Last Month	9.5	14.0
Account (1 = if respondent has a checking account; 0 = otherwise)	.853	.210
Region of Residence (1 = rural; 0 = otherwise)	.304	.468
Opinion on Telephone Lifeline if it Increased Local Bills (1 = support; 0 = oppose)	.636	.480
Opinion on Telephone Lifeline if it Increased Long-Distance Bills (1 = support, 0 = oppose)	.671	.470
Opinion on Banking Lifeline (1 = support; 0 = oppose)	.253	.434

[a] The omitted category in this sequence of dummy variables is composed of those respondents who classified themselves as political conservatives.

[b] These statistics are based on the 653 respondents to the survey who provided complete information on all of the variables of interest.

Although each of the questions had four response categories--strongly favor, somewhat favor, somewhat oppose, strongly oppose--the responses have been collapsed into "favor" and "oppose" to facilitate the estimation of each of the equations.[3] A multivariate logit technique is used to estimate each of the three lifeline attitude equations. The logit equation predicts the natural logarithm of the odds that a respondent favors lifeline rates rather than opposes them, for any given levels at which the independent variables have been set [13].

Table 2 presents the results of the logit analyses for the three estimated equations. In the logit model, the estimated coefficients are cast so that a one unit change in an independent variable, X_i, produces a β_i percentage change in the natural log of the odds ratio, holding all other factors constant. Because this interpretation is cumbersome, "marginal effects" have been included in Table 2. A marginal effect represents the change in the odds that a respondent would support the establishment of lifeline rates rather than oppose such a law, given a small change in an independent variable, holding all other factors constant. Each marginal effect varies depending on the values for the continuous variables and the modal

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[3] Technically, when a dependent variable takes on a fairly limited number of discrete ordinal values ordered probit or multinomial logit are more appropriate estimation procedures to use [9]. Unfortunately, neither an ordered probit routine nor a multinomial logit routine is currently available on the University of Utah campus, and so the response categories were collapsed so that a binary choice model could be estimated instead.

TABLE 2 Parameter Estimates of the Logit Analyses of Opinions About Three Particular Lifeline Proposals (t-statistics in parentheses)

Independent Variables	Equation 1 Coefficients[a]	Marginal Effects[d]	Equation 2 Coefficients[b]	Marginal Effects[d]	Equation 3 Coefficients[c]	Marginal Effects[d]
Constant	2.20 (3.88)**	--	2.57 (4.41)**	--	.248 (.386)	--
Age Dummy	.483 (1.71)*	.118	.464 (1.57)	.111	$-6.60X10^{-3}$ (-.0229)	$-9.57X10^{-4}$
Rural/Urban Dummy	-.420 (-2.25)**	-.102	-.0414 (.212)	-.00989	-.0645 (-.312)	-.00935
Politics 1 Dummy	.968 (4.19)**	.236	.701 (3.02)**	.168	.855 (3.71)**	.124
Politics 2 Dummy	.432 (2.17)**	.105	.329 (1.58)	.0786	.392 (1.74)*	.0568
Account Dummy	--	--	--	--	-.409 (-1.65)*	-.0593
Number of Long Distance Calls	--	--	.0156 (1.81)*	.00373	--	--
Long Distance Bill	$8.32X10^{-4}$ (.374)	$2.03X10^{-4}$	-.0136 (-.368)**	-.00325	--	--
Education	-.109 (-2.25)**	-.0266	-.108 (-2.56)**	-.0258	-.0517 (-1.07)	-.00950
[illegible]	$-1.52X10^{-5}$ (-2.35)**	$-3.7X10^{-6}$	$-1.65X10^{-5}$ (-2.49)**	$-3.9X10^{-6}$	$-2.51X10^{-5}$ (-3.14)**	$-3.6X10^{-6}$
[illegible]	76.2		75.0		37.6	

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[a] The dependent variable in this equation measured opinion about a proposal to establish a means-tested telephone lifeline program that would be financed by increasing local telephone rates.

[b] The dependent variable in this equation measured opinion about a proposal to establish a means tested telephone lifeline program that would be financed by increasing long-distance telephone rates.

[c] The dependent variable in this equation measured opinion about a proposal to establish a means-tested checking account lifeline program.

[d] The marginal effects have been calculated using the following formula:

$$\frac{\partial P_i}{\partial X_i} = \left[\frac{e^{X\beta}}{(1+ e^{X\beta})^2} \right] \beta_i$$

Where $X\beta$ has been computed using the mean values for the continuous variables, and modal values for the discrete variables [10].

[e] The χ^2 was computed by subtracting the χ^2 associated with the full model from the χ^2 associated with the null model. The difference has a χ^2 distribution with 7 degrees of freedom in equations 1 and 3 and 8 degrees of freedom in equation 2. The critical values are $\chi^2_{(7;\ .01)} = 18.48$ and $\chi^2_{(8;\ .01)} = 20.09$.

*t-value statistically significant at the .10 level.
**t-value statistically significant at the .05 level.

values for the dichtomous variables. (In the latter case, mean values would have no logical interpretation.)

A test of the overall goodness of fit for each of the logit equations indicates that all three equations are statistically significant at the .01 level. A closer look at the estimated coefficients indicates that some of the a priori hypotheses are supported by the data, although several are not confirmed.

It was hypothesized that a respondent's household income would be inversely related to support for lifeline rates because the higher the income, the less likely a respondent would be to qualify for a means-tested lifeline program (and thus directly benefit from such a program). In each of the three equations, this hypothesis is supported by a negative and statistically significant coefficient on the income variable. The corresponding marginal effects indicate that a household with $10,000 more in annual income than the average household is anywhere from 3.6 percent (for the equation that measures support and opposition to banking lifeline service) to 3.9 percent (for the equation that measures support and opposition to telephone lifeline service that would be funded by increasing long-distance rates) less likely to support lifeline service, ceteris paribus, than is the average respondent.

The coefficients on the two variables designed to capture variations in attitudes due to affiliations with special interest groups--other than low income households--meet with less success. It was originally posited that individuals who had benefited from telephone and banking subsidies prior to deregulation would support the establishment of means-tested lifeline programs because they would perceive such proposals as increasing the chances that subsidies would be continued or re-instated

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for them. Two dummy variables, one that identifies elderly respondents (e.g., those aged 62 and over) and one that identifies respondents living in rural areas, are entered into each of the equations to control for possible variations in attitudes about lifeline due to membership in either of these two groups. The coefficient on the age dummy, while exhibiting the hypothesized (positive) sign in two out of the three equations, is only statistically significant in the first equation. The rural/urban dummy is statistically significant in only one of the three equations--and in that equation the sign is in the opposite direction of what was originally hypothesized.

One possible explanation for the unexpected lack of relationship between age, region of residence, and the respondent's attitude about lifeline policies is that while some elderly and rural residents see the establishment of means-tested lifeline rates as increasing their own chances of getting such a subsidy, others see themselves as competing with low-income households for these subsidized rates. That is, some older (or rural) respondents may believe that if low-income households are given lifeline rates, it will lower their own probability of getting such a subsidy. If this is true, on balance, one might observe no relationship between age or region of residence and attitudes about means-tested lifeline policies.

Educational attainment has been included in each of the equations because it was hypothesized that respondents with more education would be more fully aware of the various options available to consumers in a deregulated market and thus they would be less likely to perceive themselves as benefiting from a lifeline policy, ceteris paribus. In all three equations the negative education coefficient is in line with the hypothesized sign. Furthermore, the education coefficients are statistically significant in the two telephone lifeline equations. A respondent who had one more year of education than the average person was 2.66 percent less likely to support a lifeline telephone rate if it meant that it would raise the average customer's local bill and he/she was 2.58 percent less likely to support such a measure if it meant that the average customer's long distance bill would rise. Hence, it appears more highly educated people perceive fewer direct benefits from telephone lifeline service and thus they are less likely to support a means-tested lifeline program than are their less-educated counterparts.

In the empirical assessment of how attitudes about lifeline service would vary in relation to dollar costs incurred, different variables were entered in each equation depending on the question being analyzed. In the first equation, telephone lifeline service is to be financed by increasing customers' local telephone bills by 25 cents per month. In theory, one would expect some variation in level of support depending on the size of a respondent's local telephone bill. Unfortunately, the survey did not collect data on local telephone bills. However, data were collected on long-distance bill amounts. If local telephone bills are fairly constant across users and if respondents are likely to think about local and long-distance charges together (because prior to deregulation these two bills always came as one), then one might anticipate that the greater a respondent's long-distance bill, the smaller the 25 cent surcharge would be as a percentage of that bill, and the more likely the respondent would be to support lifeline service. In this spirit, last month's long-distance bill amount has been entered in the first equation. The estimated coefficient on this variable is not statistically significant although its sign is in the hypothesized direction. This lack of association suggests (1) it is inappropriate to assume that respondents do not think about their local and long-distance telephone bills separately, or (2) the size of a respondent's telephone bill does not alter one's opinion about lifeline programs.

In the second telephone lifeline equation, two cost variables have been included: the respondent's long-distance telephone bill last month and the number of long-distance calls made during that month. Recall that support for lifeline telephone rates should be inversely related to the proportion of the costs of such rates that would be born by a respondent. In this second equation support for telephone lifeline rates should be lower among frequent long-distance callers because the costs of such rates are to be made-up by increasing long-distance phone bills by 2 cents per call. Likewise, the larger a respondent's long-distance bill is, holding the number of calls constant, the more supportive a respondent should be of the proposed lifeline program, because the smaller the cost would be relative to a respondent's already-existing expenditures on long-distance calls.[4]

The estimated coefficients on the bill amount and number of calls variables in the second equation are statistically significant but contrary to the hypothesized relationships. Evidently, the more long-distance calls one makes the more likely a person is to be supportive of lifeline telephone rates that would be financed by raising the cost of a long-distance call. The calculated marginal effect indicates that a person who makes 10 more calls per month than the average individual is 3.7 percent more likely to favor the lifeline proposal. One possible explanation for this unanticipated result is that people who make many long-distance calls see basic telephone service as more of a necessity than do people who make few long-distance calls, ceteris paribus.

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[4] For example, someone who makes 10 long-distance phone calls per month but who has a $100 long-distance phone bill should be more supportive of the lifeline rate than someone who makes the same number of long-distance calls each month but whose long-distance bill is only $10. In the former case, the respondent would see a .02 percent increase in his/her phone bill if a lifeline program were imposed, while in the latter case the respondent would see a 2 percent increase.

The negative sign on the bill amount coefficient indicates that the larger one's long-distance bill is, the less supportive a person will be of such a lifeline rate structure. A respondent whose long-distance bill is $10 above the average is 3.25 percent less likely to favor the telephone lifeline proposal than is the average respondent. Evidently, individuals with high bills are less tolerant of any additional telephone charges placed on them than are individuals with low phone bills, even if the surcharge as a percentage of the total bill is lower for the former group than for the latter.

In the banking equation a dummy variable that identifies who has a checking account has been entered to capture possible differences in the cost incidence of a banking lifeline program. In theory, those who have checking accounts should be less supportive of lifeline checking for low-income customers than those respondents who do not currently have a checking account, *ceteris paribus*, because members of the former group will be the ones who will bear the costs of this subsidy. The negative coefficient on the checking account dummy in the banking equation conforms with the hypothesized relationship and the coefficient is statistically significant. The corresponding marginal effect indicates that people with checking accounts are almost 6 percent less likely to support the banking lifeline proposal than are those who do not have checking accounts.

All three of the equations contain a set of dummy variables that measure a respondent's political orientation. It was argued earlier that political conservatives, who have historically championed deregulation, would view the establishment of lifeline policies as a retreat from efficient cost-based pricing. Therefore, it was posited that political conservatives would be less supportive of lifeline policies than political liberals. Two political orientation dummies are entered into each of the three equations, one that identifies political liberals and one that identifies respondents who considered themselves to be politically "middle-of-the-road." In each equation, those respondents who classified themselves as political conservative constitute the omitted group.

The significant, positive signs on five out of the six estimated coefficients support the hypothesis that political conservatives would be the least likely to support lifeline rates. The marginal effects indicate that political liberals are 23.6 percent more likely to support telephone lifeline rates if they would increase local phone bills, 16.8 percent more likely to support telephone lifeline rates if they increase long-distance bills, and 12.4 percent more likely to support banking lifeline rates than are their conservative counterparts, *ceteris paribus*. Correspondingly, those who classify themselves as "middle-of-the-road" are 10.5 percent more likely to favor telephone lifeline rates if they are funded by raising local rates, 7.86 percent more likely to favor telephone lifeline rates if they are funded by raising long-distance rates (although this coefficient is not statistically significant), and 5.68 percent more likely to favor banking lifeline rates than are political conservatives, holding other factors constant.

DISCUSSION

The transition within deregulated industries to cost-based pricing raises the possibility that low-income consumers will not be able to afford services such as banking and telecommunications. In response, lifeline proposals have been advocated to ensure some degree of access. Since these proposals have been offered in a political climate otherwise inhospitable to new social welfare initiatives, any substantial degree of public support would be noteworthy. The research reported here not only assesses levels of support for lifeline programs but also suggests some of the reasons behind varying degrees of support.

The descriptive data indicate that public support for lifeline service varies markedly across commodities. In Utah, support for telephone lifeline service was high relative to support for checking account lifeline services. This difference may reflect a belief that telephone service is a necessity while a checking account is not. Or perhaps people believe that current pricing structures prohibit access to low-income households in the telecommunications market, but not in the banking market. Finally, it is possible that some of the observed differences were an artifact of the way in which the questions were asked. The telephone lifeline questions included detailed information about the dollar costs while the banking lifeline question discussed the costs in vague terms. Consumers may be less likely to voice support for a program when the costs are unspecified. Whatever the reason, these data suggest that policymakers should not generalize from public opinion about lifeline proposals in one market to other markets.

This research also suggests some of the reasons why people who are unlikely to benefit from social welfare programs nevertheless support such programs. All three of the estimated equations demonstrated that the probability of personally benefiting from the proposed program influenced one's opinion of the proposal. Likewise, opinion was also swayed by the probability that an individual would have to finance the program. More surprising were the strong effects of the less-tangible cost-benefit factors such as a respondent's education level and political orientation in determining attitudes about social welfare proposals. While neither of these variables directly affects the probability that an individual will benefit from or pay for the social programs in question, our empirical work nevertheless suggests that these factors dramatically influence public opinion on these issues.

Since lifeline programs involve the subsidization of a minority by the majority, the political prospects of such proposals would be bleak if public attitudes toward them were determined solely on the basis of narrowly-defined economic self-interest. Our analysis shows that lifeline proposals may also be supported for broader, more ideological reasons. If public policy in the United States continues to stress industry deregulation, it therefore appears that lifeline policies will be a politically acceptable method of addressing problems of equity created in the process.

REFERENCES

1. Catalano, P. T. "Lifeline Rates: An Update." *Public Utilities Fortnightly* (August 13, 1981), pp. 48-51.

2. Consumer Federation of America. "Bank Fees on Consumer Accounts: The Second Annual National Survey." (May 18, 1985).

3. "Consumers Seek Lifeline Utility Rates." *Action Faction* (1977), 1(3):1-3.

4. Cooper, A. "Low-Income Customers Discover Down Sides of Phone, Banking Deregulation," *National Journal* (January 26, 1985), pp. 204-205.

5. Cooper, M. and Kimmelman, G. "Comments of the CFA and the U.S. PIRG in the Matter of MTS and WATS Market Structure." Federal Communications Commission Hearing, April 26, 1985.

6. Day, G. S. "Assessing the Effects of Information Disclosure Requirements." Pp. 152-167 in *Consumerism: Search for the Consumer Interest*, 4th edition (1982), New York: The Free Press.

7. Diamond, S. J. "Consumer Groups Push Banks Back to 'Basics'." *Los Angeles Times* August 19, 1985), part IV, p. 1.

8. Frank, R. H. "Lifeline Proposals and Economic Efficiency Requirements." *Public Utilities Fortnightly* (May 26, 1977), pp. 11-15.

9. Garner, T. I. "Multinomial Logit Analysis." *1984 ACCI Proceedings*, pp. 151-154.

10. Harushek, E., and Jackson, J. E. *Statistical Methods for Social Scientists* (1977), New York: Academic Press.

11. Koger, R. K. "Is There Economic Justification for a So-called Lifeline Rate?" *Public Utilities Fortnightly* (May 10, 1979), pp. 11-17.

12. "Lifeline Legislation Defeated." *American Banker* (July, 1985), p. 6.

13. Pindyck, R. S., and D. L. Rubinfeld. *Econometric Models and Economic Forecasts*, 2nd edition (1981), San Francisco: McGraw-Hill.

14. Reinking, R. D. "Lifeline Telephone Service is a Reasonable Utility Classification." *Public Utilities Fortnightly* (July 25, 1985), pp. 32-37.

15. Taubman, E., and Frieden, K. "Electricity Rate Structures: History and Implications for the Poor." *Clearinghouse Review* (October, 1976), pp. 431-441.

DISCUSSION

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ABSTRACT

The three papers under discussion address important public policy issues. The Morse article is one of the many written over the past twenty-five years which addresses the need for universal standards of interest rate disclosure. The Brannigan/Ensor article explains why the appellate court reversed the district court decision and ruled against Consumer's Union in favor of General Signal Corporation. This ruling is currently being appealed and, if upheld, will have a major impact upon the operation of Consumer's Union. The Zick, Mayer, Burton article examines some of the social bases of support for and opposition to lifeline programs in two deregulated industries.

INTRODUCTION

The three papers being discussed in this session represent three distinct approaches to evaluating policy and the consumer. Zick/Mayer/Burton use a survey research approach to examine some of the social bases of support for and opposition to lifeline programs, while Brannigan/Ensor use a legal case study approach in their research. Morse uses an informal market survey approach in his investigation of savings rate disclosure. Each study represents a distinct approach to public policy and, therefore, will be examined separately.

Morse

As a prelude to a discussion of the Morse study, I would like to mention the types of scholarly activities in which Dr. Morse has been involved. I hope that it will put the discussion paper into perspective. Morse has conducted in depth research on standarization of interest rate disclosure for over twenty-five years. His efforts, a major reason for passage of truth-in-lending legislation, served to overcome the opposition of researchers who testified against the need for uniform rate disclosure. These researchers claimed their study results showed that consumers want only minimal information, e.g., the amount of their monthly payment, which was understandable when interest rate disclosures were confusing and not uniformally disclosed. Anyone who has seen recent advertisements for available credit, such as for the purchase of a new automobile, realizes that consumers also want to know the annual percentage rate.

The Morse paper represents one more piece of scholarly activity conducted over a twenty-five year period. His current research, "Truth-in-Savings' is, in actuality, the flip side of the coin of "Truth-in-Lending". I do not have to tell you the impact that truth-in-lending legislation has had in simplifying the teaching of credit for both college classroom students and for lay audiences. The same results will be reached with usage of Cents-ible interest in the disclosure of interest rates on savings and investment instruments. One question a reader might have is why did Morse select the August 6, 1984 issue of the Washington Post to evaluate a variety of advertised saving instruments. That choice limits his evaluation options to only those offered by various financial institutions in one market. I believe the answer is revealed in paragraph two of Morses' paper. . . . "This same week the U.S. House Banking Committee held hearings on HR2282, the Truth-in-Savings Act." Morse was invited to testify on the merits of this piece of legislation in behalf of consumers. Morse, from my own observations over a period of 7 years, is a master at making ivory tower research come alive and relevant to legislators. Morse used the August 6, 1984 issue of the Washington Post to bring to legislators' attention the problem faced by them and other consumers in evaluating saving information advertisements and to further document the need for using the cents-ible interest method of information disclosure.

The only question I raise with this paper is why Morse does not put this information into perspective with the rest of his twenty-five years of scholarly activity in this area. I hope this was clarified by my introductory comments. I do realize that the authors were limited to seven camera-ready typed pages which probably explains this omission.

The need for cents-ible interest has been well documented by Morse. This paper on interest rate disclosure is the fifth in a series of papers presented by Morse on this topic. The other papers appear in the 1978, 1980, 1983 and 1984 ACCI proceedings. Morse intended the primary focus of his research activities be for the consumption of legislators, regulators, and the lay public, and of secondary importance to researchers and educators. In conclusion, Morse is an excellent role model for us all and is to be commended for his continued effort on behalf of consumers.

BRANNIGAN/ENSOR PAPER

As mentioned earlier, all three papers use a different approach in their research undertaking. This speaks to the diversity and strength of ACCI. I agree with most of the conclusions of the two authors except with regard to their discussion of the Lanham Act. The authors believe "the Lanham Act provides only limited protection to CU position." In the case of the Regina advertisement, for example, they believe that CU's only protection is that the company did not display the entire non-commencialization policy of Consumer Union which appears at the beginning of each issue Consumer Report Magazine; instead, the ad merely stated that "CONSUMER REPORTS is not affiliated with Regina and does not endorse products." The authors continue, "If the disclaimer is determined to be insufficient, and therefore the advertisement is misleading, the advertisement does not fall within protection of the First Amendment." I believe the Lanham Act provides Consumer Union protection from a different perspective. The Lanham Act, stated the authors, "covers only those advertisements that are blatantly false, but also those that embrace innuendo, indirect intimations, and ambiguous suggestions!" General Signal Corporation took the rating out of context, and, therefore, the ad could be construed as misleading and thus false. As consumer educators we have warned our audiences of the need to read the whole article. Consumers need to know the methodology and criteria CU is using to weigh the value of the ratings.

As a reader, I was expecting a section on implications. Since this section was omitted, I was left with some questions unanswered by the two authors. These questions are:

-- How will this court decision change the way CU will conduct business in the future if not reversed in a higher court? Will CU have companies sign contracts before testing their products in order to exercise control on tests or will CU have a rating at the conclusion of each articles product rating? Will consumers stop buying Consumer Reports since will be provided the information by company ads? How will this decision effect us as Consumer Educators?

These and other questions are not addressed in this paper, but it would have been helpful and informative to Consumer Educators to have had the authors perspective on these questions. Without addressing the implications to consumers, I question the value of this research and paper to the field.

ZICK/MAYER/BURTON

The authors are to be commended for their timeliness in developing and testing a model for support and opposition to lifeline programs. The trend of the last ten years, has been deregulation of major industries by the federal government and will continue. It will bring more competition and benefits to consumers in the aggregate, but make the plight of the disadvantaged more difficult than ever. This was how Rhoda Karpatkin described the situation during her 1986 Colston E. Warne Lecturer.

The methodology of this study was generally sound and will assist Utah's decisions regarding lifeline rates in the telecommunication industry. On the other hand, I do not believe that any implications can be made regarding lifeline rates in the banking industry. The authors themselves state . . . "it is possible that some of the observed differences were an artifact of the way in which the questions were asked" and thus I can make no inferences from the data with respect to lifeline rates in banking.

My major disappointment is that the authors didn't address the limitations of their study or the need for future research to address important methodological questions raised by their results. The most obvious limitation is that this was a telephone survey, thus, only persons with telephones were interviewed. Certainly this would have a great impact on results involving lifeline rates and telecommunications. Another limitation was the deletions of religion and race. During my discussion of the paper, Burton responded to this limitation, saying that other research conducted in Utah shows no difference between people in Utah and the rest of the country. This might be true in some areas of research but I believe differences will be observed when asking questions from a social welfare perspective. I believe future research must ask these questions, because legislators of other states will certainly raise the question. If, in the second wave of this study, the question of religion is not addressed, the research mentioned by Burton should be at least referenced. Also, future research questions on lifeline rates should have both detailed information about dollar cost as well as unspecified? It is possible that consumers are against lifeline rates until they are informed about how little it will cost them personally.

ESTIMATING THE RETURNS TO INFORMED DECISION-MAKING: WHAT IS A SUBSCRIPTION TO CONSUMER REPORTS WORTH?

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ABSTRACT

Data from 929 product tests in Consumer Reports between January 1975 and November 1984 were used to identify a relatively high quality, low priced item (a "Best Choice") and a qualitatively inferior item (a "Worst Choice") in each product test. The price of each "Worst Choice" was divided by the price of the corresponding "Best Choice" to determine the maximum money loss (in percent) possible from uniformed decision-making in 12 product classes. Three product classes which included durable goods were also examined to determine whether significant differences by subclass existed. Results were compared to Morris' [8,9] findings based on similar data for 1961 through 1968. Implications for consumers and consumer educators are also identified.

Various researchers have provided evidence that a high degree of price dispersion and low price-quality correlations exist in local markets for a number of products. The data analyses indicate that significant consumer payoffs to search are possible and, concomitantly, that consumers who are not fully informed are unlikely to obtain an optimum return from dollars spent. With personal consumption expenditures in the U.S. at $1,192 billion [14, p. 448], the potential loss of consumer welfare from what Morris [9] termed "haphazard purchasing" is great.

Maynes and Assum [7], Maynes [6], Cude [3], and Duncan [4] illustrated the wide range of prices found in local markets for a given level of quality using "perfect information frontiers." For example, Maynes and Assum [7, p. 73] found in one local market that, at $1.59, the highest price for aspirin, a quality constant product, was 4.08 times the lowest price ($.39). They also determined that the ratio of the highest to lowest price for a specific quality level of single lens reflex cameras was 3.74 ($635÷$170).

Several studies, including ones by Riesz [11,12], Sproles [13], and Geistfeld [5], have shown that the price-quality correlations for selected products are weak and even negative. Riesz [12, p. 25], in his study of 685 product categories rated in Consumer Reports between 1961 and 1975, found a mean rank correlation of 0.26. In a similar study focusing on packaged food products, Riesz [11, p. 240] estimated a mean price-quality correlation of 0.19. Sproles [13, p. 67] investigated 135 products in five major product categories. While 51% of the price-quality correlations were positive, 14% were negative. For 35% of the products, there was essentially no relationship between price and quality. Geistfeld [5, p. 340] examined the price-quality correlations for 18 products but, unlike other researchers, used prices from two local markets. He reported (market) price-quality coefficients ranging from -0.75 to 0.83 in one market and from -0.50 to 0.79 in the other.

Despite these data, consumers often underestimate the returns to search. Maynes and Assum [7, pp. 82-83] surveyed consumers to determine how accurately they perceived the price dispersions for selected products in a local market. They reported that, particularly for products with wide price dispersions, underestimation of the highest price charged was the dominant tendency. A 1982 study by Louis Harris and Associates [2, p. 50] provided additional evidence that consumers tend to believe markets perform better than they actually do. Consumers were asked how much difference in value they could expect to find by comparison shopping for six products and services: physicians, new cars, electrical appliances, food, credit, and gasoline. For each of these six items, 40% or fewer expected to find large differences.

Morris [8,9] approached the question from a slightly different perspective. Using data from 637 Consumer Reports product tests between 1961 and 1968, she calculated the maximum monetary loss (in percent) which an uninformed consumer might incur by buying a highly rated, relatively low-priced item (a "Best Choice") rather than a qualitively inferior item in the same product test (a "Worst Choice"). Dividing the price of the "Worst Choice" by that of the "Best Choice," Morris found that the mean percentage difference for the 12 product classes investigated ranged from 120.73% to 240.67%, i.e. consumers could, on the average, pay from 120.73% to 240.67% more for the "Best Choice" than for the "Worst Choice." As Morris [9, p. 107] notes, the potential maximum loss in real income is underestimated since the "Worst Choice" is qualitatively inferior to the "Best Choice."

This study replicates Morris' procedure to provide current data on potential payoffs to consumer search. Specifically, the objectives are:

1) Using data from Consumer Reports product tests for 1975 through 1984, determine the minimum and maximum as well as the mean percentage difference between the prices of the "Best Choice" and "Worst Choice" for 12 product classes,

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2) compare the results from current data to those generated by Morris,

3) determine whether significant differences in maximum monetary loss exist within subclasses for three product categories which include durable goods, and

4) identify implications for consumers and consumer educators.

PROCEDURES

Prior to outlining the procedure used, a review of how Consumer Reports (CR) presents product test results may be useful. CR generally provides information on the prices of models tested as well as an assessment of the models' overall quality. Prices are usually list prices or, less frequently, ones based on market studies by Consumers Union's buyers.

Quality may be indicated in one of several ways. Most commonly, a qualitative ranking is used with categories of "Acceptable" and occasionally "Conditionally Acceptable" or "Not Acceptable." Subdivisions such as "Acceptable - Excellent" and "Acceptable - Very Good" may also be used. Sometimes a model may be check rated (shown by the symbol ✓) indicating that it is of "high overall quality and significantly superior to...(the quality)...of other models" [1]. Models designated as "Best Buys" are those which "are not only rated high (in overall quality) but also priced relatively low and should give more quality per dollar than other Acceptable models" [1].

Occasionally, numerical quality scores may be listed for each model. More often, there is no information on the degree of quality difference between models other than an indication when models are of equal quality or a statement that quality differences between closely ranked models are slight. CR does not disclose the weights assigned to the various characteristics assessed in evaluating quality although a sense of the relative importance of the characteristics can often be gleaned from the accompanying article.

The procedure used by Morris [8,9] was followed as closely as possible. Morris defined a "Best Choice" as:

1) A model classified as a "Best Buy;" if more than one, the cheapest was identified as the "Best Choice."

2) If no "Best Buy" was designated, then a check-rated model was identified as the "Best Choice;" if multiple models were check-rated, the cheapest was selected as the "Best Choice."

3) If no models were check-rated or designated as "Best Buys," then the "Best Choice" was the cheapest of those listed in the top "Acceptable" class. When models were listed in a qualitative hierarchy without subdivision, the "Best Choice" was designated as the cheapest model in the top one-third of those listed.

A "Worst Choice" was defined as the most expensive item in the bottom two-thirds of the ratings, including models, if any, rated as "Conditionally Acceptable" or "Not Acceptable" [8, p. 36]. Under no circumstances, however, could the "Worst Choice" be a "Best Buy," a check-rated model, or a model rated qualitatively superior to the "Best Choice."

Several other principles used by Morris [8,9] were also adopted for this study. Since list prices were reported more often than market prices, market prices were used only when list prices were unavailable. Tests containing three or fewer models and those in which all models were rated "Not Acceptable" or of equal quality were excluded. The final exclusion was items where the list price required the addition of a shipping charge since the total cost to the consumer could not be determined.

The above definitions were used for 929 product tests[2] published in CR between January 1975 and November 1984. For each test, the price of the "Worst Choice" was divided by that of the "Best Choice." The result was an estimate of the maximum monetary loss (in percent) that might be incurred by the consumer who chose the "Worst Choice" rather than the "Best Choice."

RESULTS

The percentage difference between the prices of the "Best Choice" and "Worst Choice" varied greatly from product to product (Table 1). The greatest difference in any product category was an astonishing 2380% (Col. 2). This occurred in the product category Home, Yard, Upkeep and Renovation Equipment for hearing protectors. In the 1975 test, the "Best Choice," E-A-R Plugs, was priced at $.25 per pair. The "Worst Choice," Sonic Ear Valve 103, was $5.95 per pair. In Column 2 the figure 2380 is the percent that $5.95 is of $.25. The smallest percentage difference in price was 21.21% (Col. 3), occurring in the product class Autos and Automotive Equipment for road emergency signals (roof mounted), tested in 1977. The percentage difference was derived from the comparative list prices of the "Best Choice" ($33) and "Worst Choice" ($7).

The mean percentage difference (Col. 4) between the prices of the "Best Choice" and "Worst Choice" ranged from a high of 392.74% for Clothing and Jewelry to a low of 125.35% for Televisions and Related Products. The median percentage (Col. 5) difference also varied by product class from a low of 107.01% (Autos and Automotive Equipment) to a high of 275.69% (Clothing and Jewelry).

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[2] Ratings of services (such as film processing and insurance) are excluded from the analysis.

TABLE 1. Price of "Worst Choice" as a Percent of Price of "Best Choice:" 929 CR Tests, 1975 through 1984.

Col. 1	Col. 2	Col. 3	Col. 4	Col. 5	Col. 6	Col. 7
	PERCENTAGE DIFFERENCE				NUMBER OF TESTS IN PRODUCT CLASS	
PRODUCT CLASS	HIGHEST	LOWEST	MEAN	MEDIAN	TOTAL	NUMBER WITH % BELOW 100
Clothing & Jewelry	875.00%	137.14%	392.74%	275.69%	6	0
Cosmetics, Drugs & Self-Improvement Products	1957.14	57.78	275.95	144.25	34	4
Cameras & Related Equipment	629.63	106.06	235.30	189.47	30	0
Food & Beverages	1260.00	31.15	200.27	166.67	149	16
Sports, Camping Equipment, & Toys	666.67	71.14	181.09	138.10	76	16
Household & Domestic Goods	637.68	43.75	176.92	147.06	72	16
Home, Yard, Upkeep, & Renovation Equipment	2380.00	40.91	173.79	145.45	194	18
Radio-phonograph Equipment & Related Products	400.00	21.67	161.05	134.83	67	8
Autos & Automotive Equipment	1000.00	21.21	153.95	107.01	97	33
Minor Appliances Under $100	411.76	60.00	152.76	133.33	76	10
Major Appliances Over $100	573.75	47.62	144.87	122.40	106	12
Televisions & Related Products	166.67	100.00	125.35	120.00	22	0
TOTAL			167.37	138.10	929	133

More often than not, the "Worst Choice" was a higher priced item than the "Best Choice" (Cols. 6 and 7); this was true in 796 of the 929 product tests (86%). In three product classes, Clothing and Jewelry, Cameras and Related Equipment, and Televisions and Related Products, each "Worst Choice" was more expensive than the corresponding "Best Choice." In contrast, in over one-third of the Autos and Automotive Equipment product tests (33 out of 97) the "Best Choice" was more expensive than the "Worst Choice."

The 1975-84 data clearly indicate that high potential consumer payoffs to search exist, particularly in certain product classes. A consumer may purchase a qualitatively superior, relatively low-priced item (a "Best Choice") or spend, on the average, 167.37% more for a "Worst Choice" which is qualitatively inferior.

How do these results compare to those generated by Morris using similar data for 1961 through 1968? Morris' [9, p. 109] findings are summarized in Table 2 and contrasted with the current data. The mean percentage difference found by Morris (Col. 6) ranged from a low of 120.73% (Televisions and Related Products) to a high of 240.67% (Cosmetics, Drugs, and Self-Improvement Products). Significant[3] differences (Col. 8) between the two data sets appeared in four product categories. In only one category, Household and Domestic Goods, was the mean 1961-68 percentage difference higher (233.40%, Col. 6) than that derived from 1975-84 data (176.92%, Col. 3). The mean percentage difference for the current data was significantly higher in three product classes: Clothing and Jewelry, Cameras and Related Equipment, and Food and Beverages. Moreover, the mean percentage difference for the 1975-84 sample (167.37%) was significantly higher than Morris found (127.40%). The greater price spread in the 1975-84 data may reflect the general tendency over time of increasing multitudes of product choices and greater sophistication of product design. Both make it more difficult for consumers to make valid price-quality assessments.

A final analysis of the 1975-84 data involved a detailed examination of three product classes which included durable goods: Major Appliances Over $100, Minor Appliances Under $100, and Autos

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[3] Since Morris [8,9] did not report standard deviations, the t-tests assume the standard deviations of the two samples are not different. If this assumption is not valid, the results of the t-tests are not meaningful.

TABLE 2. Price of "Worst Choice" as a Percent of Price of "Best Choice:" 1975-84 and 1961-68.

Col. 1	Col. 2	Col. 3	Col. 4	Col. 5	Col. 6	Col. 7	Col. 8
	1975-84			1961-68			
PRODUCT CLASS	n	MEAN PERCENTAGE DIFFERENCE	S.D.	n	MEAN PERCENTAGE DIFFERENCE	DIRECTION OF CHANGE	t RATIO
Clothing & Jewelry	6	392.74%	253.01	27	154.10%	-	2.09*
Cosmetics, Drugs, & Self-Improvement Products	34	275.95	365.95	28	240.67	-	.38
Cameras & Related Equipment	30	235.30	135.45	36	132.11	-	3.08**
Food & Beverages	149	200.27	138.09	90	133.91	-	3.60**
Sports, Camping Equipment, & Toys	76	181.09	145.91	64	144.91	-	1.46
Household & Domestic Goods	72	176.92	110.93	66	233.40	+	2.99**
Home, Yard, Upkeep, & Renovation Equipment	194	173.79	274.15	68	123.92	-	1.27
Radio-phonograph Equipment & Related Products	67	161.05	77.72	47	140.74	-	1.37
Autos & Automotive Equipment	97	153.95	129.13	49	122.74	-	1.38
Minor Appliances Under $100	76	152.76	67.07	86	142.12	-	1.01
Major Appliances Over $100	106	144.87	75.82	50	123.83	-	1.62
Televisions & Related Products	22	125.35	17.42	26	120.73	-	.92
TOTAL	929	167.37	214.99	637	127.40	-	3.60**

*Significant at the .025 level.

**Significant at the .005 level.

and Automotive Equipment. Five subclasses were identified within the product category Major Applicances (see Table 3). The mean percentage difference in the five subclasses (Col. 6) ranged from 117.38% (Washers/Dryers) to 174.75% (Other Major Appliances). However, t-tests (Col. 7) indicated that none of the subclass means were significantly different from the mean (at the .005 level) for that product class. Similarly, the mean percentage differences for each of the three subclasses under Minor Appliances were not significantly different from the overall mean for that class.

However, the mean percentage difference for the subclass Autos (105.46%) was significantly lower than the mean difference (153.95%) for Autos and Automotive Equipment. In fact, in 29 (Col. 8) of the 62 (Col. 2) product tests of Autos the "Best Choice" was more expensive than the "Worst Choice." Morris [9, p. 37] reported that Autos as a subclass had the smallest percentage difference of any item in her research. The mean percentage difference in the subclass Automotive Equipment (239.85%) was significantly greater than the product cagegory mean, with percentages ranging from 21.21% (Col. 5) to 1000.00% (Col. 4).

SUMMARY, LIMITATIONS, AND CONCLUSIONS

For each of 929 CR product tests from 1975 through 1984, a "Best Choice" and a qualitatively inferior "Worst Choice" were selected. Dividing the price of the "Worst Choice" by the price of the "Best Choice" resulted in an overall mean percentage of 167.37%, indicating that, on the average, an uninformed consumer could pay 167.37% more for a qualitatively inferior item than for a higher quality choice. The mean percentage difference in the price of the "Best Choice" and "Worst Choice" varied by product class from a low of 125.35% for Televisions and Related Products to a high of 392.74% for Clothing and Jewelry. There were significant differences within the product classes in only one (Autos and Automotive Equipment) of the three classes analyzed by subclass. Comparison to Morris' [8,9] research, which used similar data for 1961 through 1968, indicated that the 1975-84 mean percentage difference was significantly higher.

TABLE 3: Price of "Worst Choice" as a Percent of Price of "Best Choice:" Three Product Classes by Subclasses, 1975-1984

Col. 1	Col. 2	Col. 3	Col. 4	Col. 5	Col. 6	Col. 7	Col. 8
			PERCENT DIFFERENCE			t	NUMBER
PRODUCT CLASS	n	S.D.	HIGHEST	LOWEST	MEAN	RATIO	WITH % BELOW 100
Major Appliances Over $100							
Refrigerators/Freezers	14	12.54	150.00%	98.88%	120.57%	1.19	1
Ranges/Microwaves	10	11.95	141.78	106.00	122.90	.91	0
Washers/Dryers	17	13.73	154.71	93.90	117.38	1.48	1
Heating/Cooling Appliances	26	54.52	297.67	58.17	139.58	.33	4
Other Major Appliances	39	59.93	573.75	47.62	174.75	2.21	6
TOTAL	106	75.82			144.87		12
Minor Appliances Under $100							
Kitchen	34	49.27	250.00	60.00	147.46	.41	4
Heating/Cooling	19	78.89	411.76	67.31	182.54	1.65	1
Other Minor Appliances	23	62.44	323.53	116.67	135.99	1.06	5
TOTAL	76	67.07			152.76		10
Autos & Automotive Equipment							
Equipment	35	180.16	1000.00	21.21	239.85	2.97*	4
Autos	62	23.45	251.49	71.52	105.46	2.91*	29
TOTAL	97	129.13			153.95		33

*Significant at the .005 level

These data reveal the existence of dramatic consumer payoffs to search. They should, however, be considered only rough estimates of the magnitude of those payoffs for a number of reasons which are summarized below.

1) The results represent the *maximum* monetary loss to consumers due to uninformed purchasing since in each product test a number of other alternatives which shoppers might choose lie between the "Best Choice" and "Worst Choice." They also do not capture the loss in *real* income that consumers incur when they pay more for a qualitatively inferior product.

2) *CR's* data on quality and list prices were assumed to be accurate and were not questioned. In reality, consumers may not always agree with *CR's* quality ratings. A consumer's assessment of the relative importance of product characteristics may differ significantly from that of the *CR* staff or a consumer may value product characteristics (such as aesthetic qualities) which were not evaluated by *CR* in rating product quality. If the consumer's evaluation differs significantly from that of *CR* it is conceivable (although unlikely) that *CR's* "Worst Choice" could be a consumer's "Best Choice." Moreover, although the "Best Choice" was *always* qualitatively superior to the "Worst Choice" (due to the selection procedure used), *CR* generally does not provide the information necessary to determine the degree of quality difference. If quality differentials are small, seeking the lower priced "Best Choice" may not be worthwhile if search costs are high. Two other limitations of *CR's* data should be noted. Because of the *time* delay required for testing products and publishing results, products rated may not be available in local markets. Additionally, through bargaining consumers may pay less than list prices.

3) The *CR* tests represent only a limited range of the products consumers buy. While a variety of products are tested, *CR's* budget ($7.5 million in 1984) [6, p. 6] limits both the number of products tested and the frequency with which products are retested. Additionally, although exceptions occur *CR* generally does not rate smaller local or house brands, nonstandard products such as furniture, or products purchased by a small number of people (i.e. pacemakers) [6, p. 6]. Moreover, ratings of services were not included in the analysis. Thus the data do not represent the

full range of goods and services consumers purchase.

4) While CR is perhaps the major source of brand by brand ratings of consumer products in the U.S., it should also be recognized that it is not the only source. Consumers may make informed decisions based on other published sources of information, experience, or recommendations from friends and knowledgeable salespersons. However, CR does have 2.9 million subscribers and, since it is available from a number of sources including public libraries and the newstands, its readership has been estimated to be 15 million [6, p. 3]. Additionally, research by Olshavsky and Rosen [10, pp. 122-125] indicated that CR subscribers frequently consult the product tests in making purchase decisions. In a survey of 1000 CR subscribers, 63.8% were aware of CR's recommendations when they last bought a major appliance, and 82.6% considered that information "very important-critical" or "important." Additionally, 84.5% of those consumers who consulted CR bought a recommended brand at least one-half of the time.

Despite the limitations, the results of this research still lead one to conclude that there are dramatic returns possible to informed purchase decisions. In each of the 12 product classes the "Worst Choice" was, on the average, more expensive than the "Best Choice," often by a tremendous margin. Although the more expensive products (stereos, autos, appliances, and televisions) tended to show the lowest price spread between the "Best Choice" and the "Worst Choice," the products with the largest price spreads were ones which are repetitive purchases. Although money savings for each purchase may be small for such goods, the total may accumulate rapidly over time if the items are purchased frequently.

Maynes and Assum [7, p. 66] offer consumer underestimation of price dispersion as one explanation of why local markets perform poorly. Data such as those presented here can be used to make consumers more aware of the returns to informed decision-making.

REFERENCES

1. Consumer Reports - Buying Guide Issue, 48, December 1984, p. 6 (How to Use the Buying Guide Issue).

2. Consumerism in the Eighties: A National Survey of Attitudes Towards the Consumer Movement, Atlantic Richfield Company, February 1983, p. 50.

3. Cude, B.J., "The Perfect Information Frontier: A Tool for Teaching the Payoffs to Comparison Shopping," The Journal of Consumer Education, 1985, pp. 7-15.

4. Duncan, G.J., "The Dynamics of Local Markets: A Case Study of Cameras," Journal of Consumer Affairs, 15, Summer 1981, pp. 64-74.

5. Geistfeld, L.V., "The Price Quality Relationship - Revisited," Journal of Consumer Affairs, 16, Winter 1982, pp. 334-346.

6. Maynes, E.S., "Consumer Reports: A Consumer's Guide - Part 1," Consumer Close-Ups, February 1985, pp. 3-16.

7. Maynes, E.S. and T. Assum, "Informationally Imperfect Consumer Markets: Empirical Findings and Policy Implications," Journal of Consumer Affairs, 16, Summer 1982, pp. 62-87.

8. Morris, R.T., Consumers Union: Methods, Implications, Weaknesses & Strengths, monograph, 1971.

9. Morris, R.T. and C.S. Bronson, "The Potential Loss in Money Income to the American People by Haphazard Purchasing," Journal of Consumer Affairs, 4, Winter, 1970, pp. 103-112.

10. Olshavsky, R.W. and D.L. Rosen, "Use of Product-Testing Organizations' Recommendations as a Strategy for Choice Simplification," Journal of Consumer Affairs, 19, Summer 1985, pp. 118-139.

11. Riesz, P.C., "Price Quality Correlations For Packaged Food Products," Journal of Consumer Affairs, 13, Winter 1979, pp. 236-247.

12. Riesz, P.C., "Price Versus Quality in the Marketplace, 1961-1975," Journal of Retailing, 54, Winter 1978, pp. 15-28.

13. Sproles, G.B., "New Evidence on Price and Product Quality," Journal of Consumer Affairs, 11, Summer 1977, pp. 63-77.

14. U.S. Bureau of the Census, Statistical Abstracts of the United States: 1984 (104th ed.), Washington, D.C., 1983.

COMMUNICATING PERFORMANCE INFORMATION TO CONSUMERS OF CLOTHING: AN ECONOMIC ANALYSIS

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ABSTRACT

The nature of information communicated to clothing consumers is analyzed and a summary of previous findings about consumer satisfaction with clothing performance are presented. It was determined that manufacturer-to-consumer communication systems currently used by clothing manufacturers provide data, not necessarily information. Such communication systems lead to economic losses when consumers in the post-purchase situation realize utility different from that expected at purchase. A conceptual framework for measuring losses in consumer welfare from imperfect information is presented. The model is used to explain why consumers do not take remedial action when clothing is unexpectedly inferior. Implications for information policies are outlined.

INTRODUCTION

Manufacturer-to-consumer communication systems are used by manufacturers to assist the consumer in making decisions about the performance characteristics of clothing. These systems influence consumers' purchase decisions and their expectations about the utility a garment will yield. When expectations are met, satisfaction generally occurs. However, when insufficient date and/or information is communicated to clothing consumers they make errors in predicting performance utility. They obtain goods in combinations which do not maximize their satisfaction. and misallocate their resources, diminishing their well-being. Thus the market failed to serve consumers' needs for information and an economic loss is incurred. Conversely, minimizing economic loss from inaccurate information improves consumers' resource allocation, increases their well-being and helps assure repeat sales for clothing retailers. It is critical that the message communicated to consumers is accurate, complete and in a useful form. Only then can consumers evaluate their preferences for specific goods in terms of needs, and weigh the relative merits of a good for predicting satisfaction in use.

A manufacturer-to-consumer communication system is often broadly referred to as an information system. Care must be taken in using the term information; its definition varies in the literature. Dohan (1976:22) points out the need for a distinction between the terms data and information. Data consists of objective, testable facts about a product. To be informative to the ultimate consumer, data must be processed (Scammo, 1977). "An information system includes not only the production of data but also analysis and interpretation of these data in some purposeful policy decision or problem solution context" (Martin, 1977:397). Information is the end product of a process which imposes form and gives meaning to data. From a consumer point of view, data that is not in an understandable format is not considered information (Russo, 1974). Information has an explicit, easily understood meaning, in relation to garment characteristics. It does not need to be further processed to make it useful in consumer decision-making. A statement that a garment will shrink 3% is data. That it will shrink one inch in length where laundered according to instructions converts that data into information.

Most communication systems used for clothing provide data; a few provide information. Communication systems that provide only data lead consumers to encounter greater costs in consuming garments than they anticipated at the time of purchase. Before purchasing, consumers can determine the purchase price, the cost of searching for information about the characteristics of various types of garments, where to purchase them and the opportunity costs of their time. They can also estimate the post-purchase costs of maintenance such as washing and repair or if the garment does not perform as implied, the cost of early replacement or exchange. It is assumed that the purchase price is the same for all consumers but that all the other costs vary from one consumer to the next, depending on their knowledge base, experience, wage rate, preferences for certainty in decision-making and their propensity to recognize and take remedial actions when products do not perform as expected or are otherwise defective. If post-purchase costs, associated mainly with physical performance, are greater than expected, the effective price of consuming garments increases and the utility received is less than the utility expected. Consumers will have allocated to many resources to those garments and will experience an economic loss.

The design of manufacturer-to-consumer communication systems for clothing is critical because consumer satisfaction with clothing is based on two types of performance in use -- psychic performance and physical performance. The former refers to the psychological and esthetic satisfaction expected due to the fit, fashion, or color of the clothing. Physical performance refers to durability characteristics such as size or color retention. The ability to evaluate the two types of performance in clothing is not equal.

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Consumers generally have the sensory capability to evaluate psychic characteristics such as fit and fashion, whereas they do not have the independent capability to evaluate physical characteristics such as shrinkage potential. Information regarding the physical performance of clothing is usually latent at the time of purchase. Consumers must, therefore, place their trust in the manufacturer and retailer, and buy on the basis of price and visually-perceivable characteristics, assuming a satisfactory level of physical utility will be forthcoming. Once the purchase is made and the garment is put into use, consumers start their own testing program of purchased garments, which reveals the true physical performance characteristics (Anon. 1973). As this evaluation is carried out, the performance utility realized may diverge in either direction from that expected.

I. CLOTHING INFORMATION SYSTEMS

Clothing product communication systems can be classified as voluntary and involuntary with the latter being dictated primarily by legislation. None of the communication systems currently used, either voluntary or legislated, provide the novice clothing consumer with accurate information about quantitative physical performance parameters to be experienced in use.

Legislated labeling of clothing came about with the Wool Products Labeling Act (WPLA) of 1939, Fur Products Labeling Act (FPLA) of 1951, and the Textile Fiber Product Identification Act (TFPIA) of 1958, which mandated objective data about fiber content and percentage.

Some consumers, however, erroneously view fiber content as information when, in fact, it is data. The clothing product is a complex system with fiber content of the fabric being only one piece of relevant data. The wide range of textile fibers available, coupled with the numerous methods of producing, finishing, and applying design to fabrics, not to mention the numerous design options and production techniques used in the fabrication of ready-to-wear garments, make it impossible for the consumer to process fiber content data into information regarding physical performance of garments (Coles 1932) or appropriate care. The physical performance of garments in wear and cleaning are latent values to the consumer, and cannot be accurately assessed visually, even by a textile expert (Laun 1969). Consequently, legislation mandating fiber content on labels may give consumers a false sense of expertise and inhibit them from seeking other relevant information (Udell 1974).

Passage of the care labeling trade regulation in 1972 helped alleviate the danger of predicting care on the basis of fiber content data by providing permanent care information. Care labels carry an implied warranty that, if the care instructions are followed, the garment will retain its appearance. Also, the care label gives the consumer an indication of the cost of maintenance. One problem with care labels has been that many instructions are overly conservative leading to the use of more expensive dry cleaning where careful home laundering would have sufficed. It will be shown later, however, that labels that do not exaggerate performance are more likely to lead to satisfied customers.

Voluntary producer-developed labeling systems include identifying the percentage of garment shrinkage with 3% being the maximum shrinkage considered tolerable. It is common knowledge in the apparel industry that 3% shrinkage will reduce a garment's dimensions by one size. However, most consumers are unaware of this guideline. Given knowledge of this guideline, consumers could process the percentage data and alter their behavior in the market. A limited number of apparel manufacturers process percentage data to provide information - such as, "Inseam will shrink one inch." Upon reading that label, consumers requiring a 29 inch inseam would most likely purchase a 30 inch inseam, ensuring fit after washing. Such information affixed to the garment enables each consumer to make an efficient choice in the market without having to know or recall the guideline. The data has been processed into information; a latent defect of this garment is no longer concealed from the consumer.

Some fiber manufacturers have tried other methods to simplify the process of supplying physical performance information to clothing consumers. For example, Celanese (a fiber manufacturer) established a performance level for each end use and required garment manufacturers to meet those standards before they were allowed to attach the Celanese hang tag to their garments. Such licensed hang tag programs are a form of image labeling which is an implied warranty that the clothing is of high quality and will perform satisfactorily. Consumers, thereby, are not given quantitative physical performance data but an assurance of performance. Such assurance adds to the product's more obvious values of fashion and price (Laun 1969).

Using brand names is another system of communicating hidden value performance to consumers. In an uninformed market where consumers have already learned they cannot rely on visual signals of quality, brand names provide consumers confidence. The consumer assumes that "no manufacturer would put his mark on shoddy or inadequate goods" (Marshall 1967:36), inasmuch as a manufacturer runs the risk of losing repeat sales if the product is unsatisfactory. Oxenfeldt (1950), however, found quality to be highly inconsistent between different lines of a given brand of the same product. This indicates consumers are not necessarily protected by brand names. "The quality of a product is determined by the producer, and he can improve or deteriorate the quality as he sees fit and still continue to use the same brand name," (Gordon 1972:345). Without precise information of an objective nature on past and current purchases, the consumer is powerless to evaluate the continuing validity of a brand name as a predictor of product quality.

Assessment of fit is a critical factor in the consumer's decision to purchase a garment. For the purpose of communicating information about how garments will fit a consumer's body, manufacturers supply size data. Using body measurements to designate size is more common in the menswear industry than in women's or children's clothing, where sizes are arbitrary numbers. The designer, Siruant Mellian, observed, "Numbers (sizes) don't correlate with anything. . . Those are just codes used to catalogue or stock (merchandise)," (Simmons 1982). To obtain information about garment fit, one is advised to try on every garment before purchase. Unfortunately, a concealed defect in the fabric, e.g. shrinkage, can alter the garment size after washing or dry cleaning and a satisfactory fit at purchase may not coincide with the realized fit after washing.

Neither involuntary nor voluntary information systems communicate quantitative information on the performance of textile products. "It is the hidden properties of the finished textile product which can only be determined by the consumer during wearing and cleaning that assure satisfaction" (Fortess 1971:48). Swan and Combs (1976) studied consumer satisfaction with clothing and found that poor physical utility was the primary reason given by consumers for dissatisfaction with clothing, while reports of satisfaction were generally associated with psychic utility in the pre-purchase situation. Color and style are almost the only differences between brands that consumers are capable of judging; it should not be surprising that consumers attach such importance to them. Consumers may desire serviceable products, but they select the product with the greatest aesthetic appeal if, as far as they can determine, all brands are equal in functional performance. The importance consumers attach to psychic factors apparently diminishes as they obtain information about functional attributes (Oxenfeldt 1950).

In the absence of informative labeling, price may be the more important and widely used index of quality. This assumes that price is determined by the competitive interplay of the forces of supply and demand, and there is a direct relationship between the amount of money paid and the quality of goods received (Hollander 1966). In the textile industry, debasing the quality of goods as they move to the low price end of the market is a common practice. Unfortunately for the consumer, such changes are usually not discernable visually. "In the uninformed market it is irrational to judge quality by price. When uninformed buyers tend to rely on indexes, often meaningless ones, for appraising quality and when the majority of buyers are uninformed and rely on such indexes, their opinion cease(s) to be trustworthy. Prices, therefore, which reflect the untrustworthy opinion of buyers, also become unreliable indexes of quality," (Scitvosky 1951:484-5).

Empirical evidence exists in the literature that the widely-held belief, "You get what you pay for," is not valid for clothing. Gale and Dardis (1970) assessed the price/quality relationship for men's shirts. Quality ratings were derived from both the physical tests and wearer evaluations. Findings indicated that a weak price/quality relationship existed, primarily for garment construction as opposed to fabric performance. In wearer evaluations, both price and brand names were found to be directly associated with evaluations of quality. Phelps (1944) reviewed research in the field of home economics and found a mass of evidence that price is a poor indication of quality for the durability of towels, the wearability of cotton and rayon dress fabrics, the colorfastness or shrinkage of other materials. With other products, Oxenfeldt (1950), Friedman (1967), Gardner (1971), Norton (1980), and Maynes (1976), also found the relationship between price and quality to be relatively weak. Consumers making purchase decisions by equating price and quality will often be disappointed, will misallocate their budgets, and incur economic losses.

II. ECONOMICS OF INFORMATION SYSTEMS

A review of economic literature reveals two basic conceptual treatments of the effect of misinformation on consumer demand and subsequent satisfaction or welfare. The first looks at information about product characteristics. Auld (1972) developed a theoretical model illustrating that consumers altered consumption patterns when receiving full information about the characteristics of a product. Colantoni et al. (1976) used a similar theoretical framework applying it to the problem of choosing automobile safety features. He concluded that a consumer will never be better off with less than full information.

The second basic approach is exemplified by Peltzman (1973), who analyzed the welfare effects of imperfect information by estimating the benefits of the 1962 Kefauver-Harris amendment to the Food, Drug, and Cosmetics Act. The model used consumer surplus analysis to measure the relevant costs and benefits. Kinsey, Roe and Senauer (1980) elaborated on Peltzman's model, integrating the possibility of imperfect information directly into the utility function. This model has been used to provide a monetary estimate of the private and social cost of inaccurate gasoline mileage estimates (Senauer, Kinsey and Roe 1984, 1986), and to analyze welfare effects of food labels (Sexton 1981).

Following the second approach, the impact of imperfect information on consumer costs is illustrated in Figure A. The expected utility from consuming a particular quantity of goods can be measured by the total area under the demand curve up to the quantity purchased. The market demand curve, which reflects all consumers' preferences, depicts aggregate willingness to pay different prices for different quantities of goods rather than do without them. It is assumed that all consumers pay the same market price (P_o). Those consumers who are willing to pay more than P_o receive some benefits above that for which they pay. This extra benefit is known as consumers' surplus and is represented by the area below the (original) demand curve (D_o) and above the price P_o, namely, the sum of the areas A and B in Figure A.[1] If consumers had known the garment's true characteristics and its true (higher) costs at the time of purchase, they would have been willing to pay the purchase price (P_o) minus the extra post-purchase costs incurred (P_o-P_t). In other words, not knowing about (P_o-P_t), they paid too much for the garment. Discovering they paid too much is tantamount to discovering that the true demand curve (D_t) lies below the original demand curve (D_o). Consumers are subsequently willing to pay less than P_o for the original quantity (Q_o) or they are willing to buy fewer garments (Q_t) at the original price (P_o).[2]

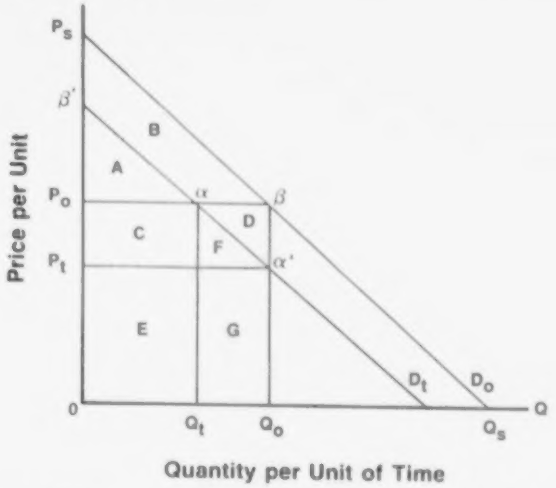

FIGURE A. True demand curve (D_t) below original demand curve (D_o).

The extra units Q_o-Q_t were, however, consumed. The true value of these units was discovered to be $\alpha\alpha' Q_oQ_t$, even though $\alpha\beta Q_oQ_t$ was paid for them. A net loss of (area D), was incurred by purchasing the extra Q_o-Q_t units.

Costs of inaccurate information can alternatively be identified by analyzing changes in consumer surplus under various conditions. Using capital letters to designate specific areas in Figure A, the total expected utility from Q_o at price (P_o) is equal to the area, A+B+C+D+E+F+G. Consumers paid area C+D+E+F+G for the goods leaving area A+B representing consumers' surplus expected at the time of purchase. Making a fully informed choice of only Q_t units at price P_o, the total optimal utility is represented by area A+C+E with area A being optimal consumer surplus.

Consumers who did not have full information and did not make the optimum choice realized utility different from what they expected and different from the optimum. The utility realized from the purchase of Q_o garments at price P_o is the area A+C+E+F+G. The difference between realized consumer surplus and that expected is the negative of areas (B+D). The difference between the optimal and realized consumer surplus is represented by area D, the economic loss suffered by consumers who misallocated their income. It represents dollars spent for garments for which no utility was received. It can also be thought of as the amount of money consumers would be willing to pay for information which would have allowed them to make an optimal choice originally.

Area D can be estimated by knowing the distance $\Delta P = (P_o - P_t)$, the original quantity (Q_o), and the price elasticity (ε) of the demand curve.[3]

$$\text{Area D} = \varepsilon\, Q_o(\Delta P)^2/2P_o \qquad (1)$$

Equation (1) provides a monetary measure of the difference between optimal and realized utility.[4]

Sometimes, an uninformed purchase decision reveals the true demand curve to lie to the right of the original demand curve. This happens when a product performs better than expected and the post-purchase costs of consumption are less than anticipated. Consumers may ultimately spend less time caring for garments or they may last longer than expected. In this case, consumers with full information would have been willing to spend more for the original quantity of garments, or they would have purchased more garments at the original price. Figure B illustrates this situation. Consumers paid $P_o'$for Q_o' garments, expecting a total utility of A+C+E under demand curve D_o. The expected consumer surplus was A+C. P_t'-P_o' represents the unexpected decrease in consumption costs which translates into an increased willingness to pay P_t'-P_o' more for the original quantity of garments. This reveals the true demand (D_t) where consumers making optimal decisions would have purchased Q_t' garments at price P_o'. The optimal consumer surplus is equal to the area A+B+C+D+F.

Having made a nonoptimal choice, consumers realized consumer surplus (utility) greater than expected by area B+D but they still suffered an economic loss from misallocating their clothing budget by area F. Area F can also be estimated with equation (1).

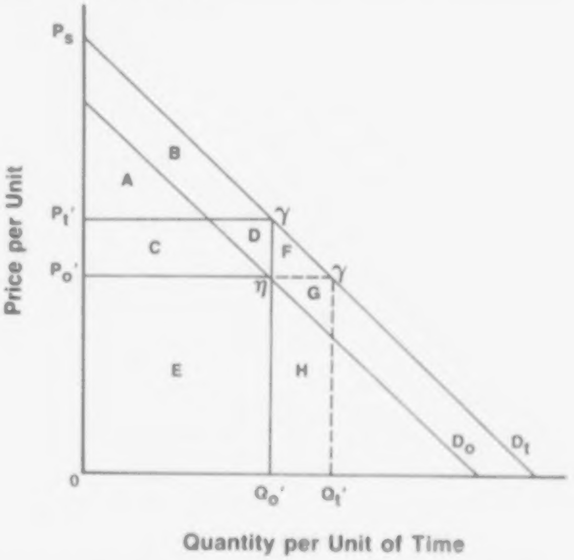

FIGURE B. True demand curve (D_t) above original demand curve (D_o).

It has been demonstrated that the economic loss, known as the allocative error, due to imperfect information can be measured by the triangular areas D and F in Figures A and B, respectively. These areas measure the difference between the utility *realized* from the actual purchase and the utility that would have been realized if an *optimal* purchase decision had been made on the basis of perfect information. However, it does measure the difference between the consumer surplus *expected* and the consumer surplus *realized*. The question remains of how these differences affect consumers' behavior and their satisfaction.

In the first case, where consumers' surplus is less by area B+D (Figure A), we would expect them to be disappointed and unsatisfied with their purchase decision (Bearden 1983). Dissatisfaction would predictably be expressed in the marketplace in the next time period by purchasing fewer of these garments. Area D is an actual monetary loss while area B is the monetary equivalent of unrealized utility and, as such, it is an appropriate (proxy) measure for the costs of disappointment borne by consumers who have chosen too many inferior garments. By simple inspection, it can be seen that area B is larger than area D, implying that the costs of unrealized utility are greater than the economic allocative loss.

An additional contribution offered by this model, not previously explored, is that it helps explain why many consumers do not take remedial action when a product is unexpectedly inferior (Beardon 1983). Remedial action by the consumer involves the costs of "... his/her time and trouble experimenting with the article, wrapping it up and taking it back, hunting around for a satisfactory substitute," (Chase 1931:251), plus transportation costs. With apparel, the consumer has often purchased matching coordinates or accessories that further increase the monetary loss in the event that a suitable replacement cannot be found. Remedial action then only further increases the post-purchase costs (P_o-P_t, Figure 1) pushing D_t farther down and to the left, increasing the size of areas D and B, exacerbating the economic loss and the costs of disappointment. Minimizing P_o-P_t minimizes the difference between expected and realized utility. It is, therefore, rational for consumers to expend as little time and money as possible to remedy unexpected flaws in merchandise already purchased, unless they can expect to recoup a substantial portion of their losses at minimal cost and/or that loss is a nontrivial portion of their total budget.

With respect to disappointment costs, no one likes to admit they have judged a product incorrectly and were wrong; therefore, they may prefer to remain silent. Even when remedial action is taken and the purchase price is refunded, the retailer may impress upon the consumer that the product was used or cared for incorrectly. Consequently, the consumer suffers psychological loss (Chase 1931). Consumers who prefer to avoid situations of conflict and who value their leisure time would also be expected to minimize their economic losses and their disappointment costs by avoiding remedial action.[5] One strategy for avoiding hassles with returns of defective merchandise is to shop at retail outlets with liberal return policies.

Consumer expectations regarding garment performance are influenced by the retail price. The higher the price paid for an item, the more nearly perfect it is expected to perform. When a raincoat shrank and discolored at the cleaners, the consumer stated, "A raincoat that cost \$275 should not shrink or discolor," (Anon. 1976). She sued for one million dollars when the store failed to keep its promise to testify that its garment was of high quality in a legal proceeding against a cleaner. Although such remedial action is not a common occurence, this situation exemplifies expectations relative to purchase price which may lead consumers to exercise their rights. The majority of apparel, however, is moderately priced and losses incurred by individuals are relatively small. In the aggregate, the magnitude of a large number of small losses absorbed by consumers is an unknown entity.

In the case where consumers realize more utility than expected, area B (Figure B) can again serve as a monetary measure of the unexpected difference in expected and realized utility. Its size is determined by the unexpected increase in willingness-to-pay (P_t-P_o) for a superior garment. Area B represents 'bonus' utility which, by inspection, is far greater than the economic loss due to buying too few of these garments. Consumers, in this case, would certainly be expected to be satisfied with their purchase, and their unexpected increase in utility would lead to an increased sense of well-being. The behavioral incentive is simply to purchase more of this type of garment in the next time period.

If unexpected increases and decreases in utility and costs were equally likely, consumers should be willing to spend an amount equal to that represented by area D or area F to obtain information that would permit them to purchase the optimum number of garments. Consumers would not, however, be expected to be equally willing to search and pay for information that would eliminate the *loss* of unrealized utility (area B in Figure A) and an unexpected *gain* of utility (area B in Figure B). There exists an asymmetry in the differences between realized and expected utility when consumers incur unexpected costs and unexpected savings. In the former case, consumers are worse off than expected, disappointed, and have rational disincentives to correct their error. In the case of unexpected increases in utility, they are better off than expected and, in spite of allocative mistakes they very likely feel satisfied with their choice.

III. IMPLICATIONS FOR INFORMATION POLICIES

Increased information about physical performance on clothing labels would enable consumers to choose garments that will bring them satisfaction and would lead to a more efficient allocation of consumers' clothing budgets. The difference between consumers who are satisfied and the consumers who are disappointed, lies in the direction of the difference between realized and expected utility. Inflating consumers' expected utility with optimistic advertising or labeling can lead to disappointment and to extra monetary costs. Consumers should be willing to pay manufacturers not to overstate the performance of their garments. Theoretically, they should be equally willing to pay for information leading to the purchase of an optimal number of superior garments. If information cannot be complete, a slight understatement about performance appears to be preferable, even though it is still inefficient.

An important implication for apparel manufacturers is that the voluntary use of informative physical performance labels becomes a viable choice criteria in the purchase decision. It is possible that the demand for some merchandise will decrease if the label carries information which reveals negative physical performance to the consumer and the price is not concomitantly lowered. However, if the consumers are not subsequently disappointed, they can be expected to be repeat customers. Recognization of the utility value of performance information to consumers could stimulate increased communication between the textile and apparel industry. The textile-apparel interface communication might be improved so that retailers, apparel manufacturers and fabric suppliers work from garment specifications and the communication problems as they now exist may be dissipated. Only then may the "full commercial benefit ... of the technological knowledge that is ... available" be realized (Urquhart 1965).

Implications for educational programs are that they can effectively serve consumers' interests by developing consumers' general skills in analyzing care labels and an awareness of the limitation of labels currently provided. Labels providing information as opposed to data would change the focus of consumer education programs. Emphasis would move to the understanding and application of information on the clothing label as opposed to an interpretation of data made available.

Implications for public policy include mandating informative labels that minimize the surprises experienced by clothing consumers as they wear and care for their garments. Research that establishes the correlation between labels' information, performance utility, price, and consumers' satisfaction will foster efficient allocation of resources and increased consumer well-being.

NOTES

[1] For a discussion about rigorous measures of consumers' surplus, see Willig (1973); Chipman and Moore (1980); Hausman (1981); and Currie, et.al. (1971).

[2] Consumers' willingness to pay P_o for Q_o garments incorporates their known search costs and their expected post-purchase costs of consumption.

[3] Three simplifying assumptions for this estimating model are: (a) a linear demand curve, (b) parallel shift in demand, i.e., new information did not change the price elasticity of demand, and (c) there exists some price for which demand is zero.

[4] By definition, price elasticity = $\epsilon \frac{\Delta Q/Q_o}{\Delta P/P_o}$

Solving for ΔQ gives: $\Delta Q = \epsilon(\Delta P/P_o)Q_o$. Thus, Area

$D = 1/2\, \Delta P \Delta Q = \epsilon Q_o(\Delta P)^2/2P_o$.

[5] Differences between consumers who complain and those who do not may be explained largely by the value of their time and by what brings them peace of mind (Laird 1977; Russo 1979; Day 1977). Some view filing complaints as a public duty, realizing the public good. If continued use of an inferior product is particularly irritating, satisfaction may be found by attempting to exchange a product for its purchase price. The same situation would exist if the purchase price were a large share of the consumers' total budget.

REFERENCES

Anon. "Boys' Knit Shirts: What You Can't Find Out." Consumer Reports 38 (November 1973): 674.

Anon. "Raincoat Shrinks; she asks $1 million." St. Paul Pioneer Press, June 10, 1976.

Auld, Douglas. "Imperfect Knowledge and the New Theory of Demand." Journal of Political Economy 80 (November 1972): 1287-1294.

Bearden, William O. "Profiling Consumers Who Register Complaints Against Auto Repair Services." The Journal of Consumer Affairs 17 (Winter 1983): 315-335.

Chase, Stuart, and Schlink, F.J. Your Money's Worth: A Study in the Waste of the Consumer's Dollar. New York: The Macmillan Co., 1931.

Chipman, John S., and Moore, James C. "Compensating Variation, Consumer's Surplus and Welfare." The American Economic Review 70 (December 1980): 933-949.

Colantoni, Claude E., Davis, Otto A., and Swaminuthan, Malati. "Imperfect Consumers and Welfare Comparisons of Policies Concerning Information and Regulation." The Bell Journal of Economics 7 (Autumn 1976): 602-615.

Coles, Jessie U. Standardization of Consumers' Goods. New York: The Ronald Press Co., 1932.

Currie, John Martin, Murphy, John A., and Andrew Schmitz. "The Concept of Economics Surplus and Its Uses in Economic Analysis." Economic Journal 81 (1971): 741-799.

Day, R.L. "Extending the Concept of Consumer Satisfaction." Advances in Consumer Research. Atlanta: Assoc. for Consumer Research 4 (1977): 149-154.

Dohan, Michael R. "Cost Maximization and Buyer Dependence on Seller Provided Information." Journal of Economic Issues 10 (June 1976): 430-452.

Fortess, Fred. "Consumerism and the Textile Industry." Textile Chemist and Colorist 3 (May 1971): 47-50.

Friedman, Monroe Peter. "Quality and Price Considerations in Rational Consumer Decision Making." Journal of Consumer Affairs 1 (September 1967): 13-23.

Gale, Arlee, and Dardis, Rachel. "Predicting

Product Performance by Price." Textile Chemist and Colorist 2 (May 1970): 159-163.

Gardner, David M. "Is There a Generalized Price-Quality Relationship?" Journal of Marketing Research 8 (May 1971): 241-243.

Gordon, Leland J., and Lee, Steward M. Economics for Consumers. 6th ed. New York: Van Nostrand Co., 1972.

Hausman, Jerry A. "Exact Consumer's Surplus and Deadweight Loss." The American Economic Review 2 (September 1981): 662-676.

Hollander, Stanley C. "Customary Prices." Business Topics 14 (Summer 1966): 45-56.

Kinsey, Jean, Roe, Terry, and Senauer, Ben. "Imperfect Information, Consumer Theory, and Allocative Error in Consumption." Univ. of Minnesota, Dept. of Agricultural and Applied Economics. Staff Paper Series (April 1980): 80-66.

Laird, Landon E. "A Model of Consumer Complaint Behavior." Consumer Satisfaction, Dissatisfaction and Complaining Behavior, Edited by R.L. Day. Bloomington, Indiana: Bureau of Business Research (1977):31-35.

Laun, Louis. "Wanted: Educated Consumers and a Consumer-Educated Industry." America's Textile Reporter 83 (February 1969): 10-11,39.

Marshall, Thomas M. "How Trademarks Serve the Consumer." American Dyestuff Reporter 56 (January 1967): 33-36.

Martin, Lee, ed. A Survey of Agricultural Economics Literature. Volume 2. Minneapolis: University of Minnesota Press, 1977.

Maynes, E. Scott. Decision-Making for Consumers, New York: MacMillan Publishing Co., Inc., 1976.

Morton, Marjorie J.T. "The Assessment of the Flammability Hazard and Its Relationship to Price for a Set of Women's Nightgowns." Ph.D. dissertation, University of Minnesota, 1980.

Oxenfeldt, Alfred R. "Consumer Knowledge: Its Measurement and Extent." Review of Economics and Statistics 32 (1950): 300-314.

Peltzman, Sam. "An Evaluation of Consumer Protection Legislation: The 1962 Drug Amendments." Journal of Political Economics 81 (September/October 1973): 1049-1089.

Phelps, Ethel L. "Benefits to the Nation's Families Through Research in Textiles and Clothing." Journal of Home Economics 36 (September 1944): 423-427.

Russo, J. Edward. "The Value of Unit Price Information." Journal of Marketing Research 14 (1977): 193-201.

Russo, J. Edward. "Consumer Satisfaction: An Outsider's View." Advances in Consumer Research 6 (1979): 453-455.

Scammon, Debra L. "Information Load and Consumers." The Journal of Consumer Research 4 (December 1977): 148-155.

Scitovsky, Tibor. Welfare and Competition. Chicago: Richard D. Irwin, Inc., 1951.

Senauer, Ben, Kinsey, Jean, and Roe, Terry. "The Cost of Inaccurate Consumer Information: The Case of the EPA Mileage Figures." Journal of Consumer Affairs 18 (Winter 1984): 193-212.

Senauer, Ben, Kinsey, Jean, and Roe, Terry. "Imperfect Mileage Information and Changing Utility: A Model and Survey Results." Journal of Consumer Affairs 20 (Winter 1986).

Sexton, Richard. "Welfare Loss from Inaccurate Information: An Economic Model with Application to Food Labels." Journal of Consumer Affairs 15 (Winter 1981): 214-231.

Simmons, Charitey. "Women's Clothes Need Sizing Up." St. Paul Dispatch, July 6, 1982, p. 11A.

Swan, John E., and Combs, Linda Jones. "Product Performance and Consumer Satisfaction: A New Concept." Journal of Marketing 40 (April 1976): 25-33.

Udell, Gerlad G. "The Consumer's Right to Consumer Education: A Rejoiner." Journal of Consumer Affairs 8 (Summer 1974): 86-92.

Urguhart, A.R. "Performance Priorities of Textiles for Garment Manufacturers." Textile Institute and Industry 3 (1965): 5-7.

Willig, Robert. "Consumer's Surplus: A Rigorous Cookbook." Technical Report No. 98. Stanford, CA: Stanford University, Institute for Mathematical Studies in the Social Sciences, (May 1973).

EFFECTS OF NUTRITION LABEL FORMAT ON CONSUMER NUTRITION DECISIONS

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ABSTRACT

This paper reports results of research testing the effects of three nutrition label formats (current, graphical nutrient density, and simple graphic) on consumer nutrition decision making. Findings indicate that supermarket shoppers are able to make decisions most effectively with the simple graphic and the graphical nutrient density formats, but most efficiently with the graphical nutrient density format. The effectiveness of consumer nutrition decision making across the label formats is also affected by shopper's level of education and by whether or not the shopper has principal household responsibility for grocery shopping. The implications of these findings for consumer policy and future research are discussed.

Among the most important consumer information provision actions taken in recent years were the nutrition labeling regulations promulgated by the Food and Drug Administration (FDA) in 1973 [2]. These regulations provided for the now familiar nutrition label found on many packaged food products. The 1973 regulations defined the current format for nutrition labels, a format that includes the following information elements (see Figure 1): serving size, serving per container, calories, and micronutrients as percentages of U.S. Recommended Daily Allowance (U.S. RDA).

Practically since these nutrition labeling regulations appeared, there have been concerns about the quality and effectiveness of the label and efforts to improve the format. These concerns have recently resulted in the publication of a list of new nutrition label formats being considered by the FDA [6]. FDA is presently evaluating these new formats to determine if any one of them should replace the current format. One of the new formats being given strong consideration to succeed the current label is the graphical nutrient density label format [1, 6].

The graphical nutrient density label format appears to have two advantages over the current format [4]. First, the graphical nutrient density format presents information in a graphic display rather than in the numeric display employed in the current format. Second, the graphical nutrient density format allows consumers to compare "nutrient density" across food products. Nutrient density refers to the amount of nutritional value, in terms of percentage of U.S. RDA, consumers will receive from a food relative to the amount of calories a serving of that food contains [5]. (See Appendix)

Most of the empirical support for the graphical nutrient density format is found in a single study by Mohr, Wyse, and Hansen [4]. Mohr, et al. tested the current label format against the graphical nutrient density format with an instore questionnaire. They found that supermarket shoppers made better nutrition decisions using the graphical nutrient density format than the current format. When shopper's education level was controlled for, it was found that among high school graduates the percentage of correct responses to nutrition questions was higher with the graphical nutrient density format than with the current format. Among college graduates, the percentage of correct responses to one of the nutrition questions was higher in the current than in the graphical density format. In addition, Mohr, et al. found that shoppers using the graphical nutrient density format took significantly less time to make the nutrition decisions than did shoppers using the current format. Mohr, et al. concluded that "...the nutrient density format as a help to consumers trying to make nutrition decisions" [4, p. 168].

Unfortunately, the Mohr, et al. [4] study did not also test a major competing label format [6]: the simple graphic format (see Figure 1). Since the simple graphic format was not included in their study, it is not possible to determine whether or not the superiority of the graphical nutrient density format is merely a result of the graphic (as opposed to numeric) nature of information presentation.

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FIGURE 1. Nutrition Label Formats.

CURRENT:

NUTRITION INFORMATION
PER SERVING

Serving Size	1 cup
Servings per Container	8
Calories	110

PERCENTAGE OF U.S.
RECOMMENDED DAILY
ALLOWANCES (U.S.RDA)

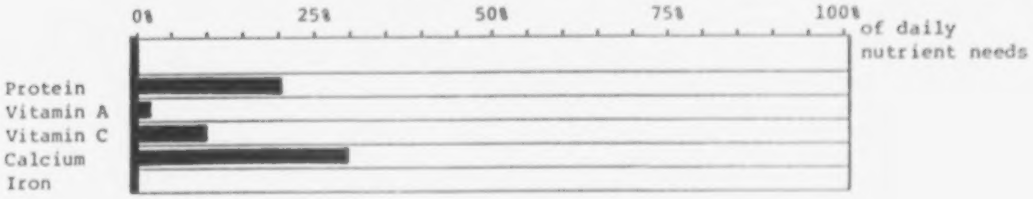
Protein	20
Vitamin A	2
Vitamin C	10
Calcium	30
Iron	0

SIMPLE GRAPHIC:

NUTRITION INFORMATION
PER SERVING

Serving Size 1 cup
Calories 110

PERCENTAGE OF U.S. RECOMMENDED DAILY ALLOWANCES
(U.S.RDA)

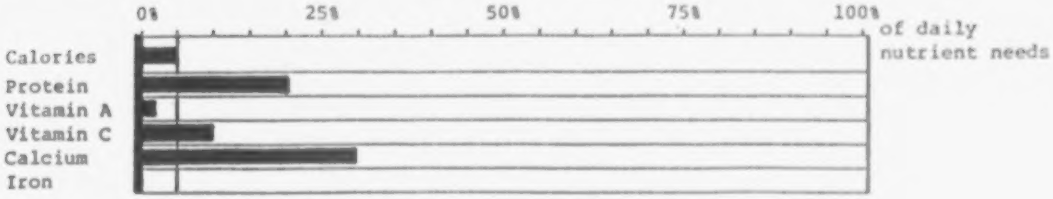


GRAPHICAL NUTRIENT DENSITY:

NUTRITION INFORMATION
PER SERVING

Serving Size 1 cup
Calories 110

PERCENTAGE OF U.S. RECOMMENDED DAILY ALLOWANCES
(U.S.RDA)



That is, shoppers may have made better nutrition decisions with the graphical nutrient density format not because of the nutrient density information presented, but rather merely because the information was presented in a graphic format. Further, the differential effects of education found by Mohr, et al. may be partly a function of whether or not shoppers are utilizing the nutrient density and/or the graphic information in the graphic nutrient density format. For example, high school graduates may have generated more correct responses with the graphic nutrient density format simply by utilizing the graphic presentation of information rather than by using its nutrient density information. Because the Mohr, et al. study tested only the graphic nutrient density format against the current format, their results cannot be used to determine whether or not the nutrient density character of the graphical nutrient density format was responsible for the superior shopper performance in nutrition decision making.

In addition, a variable not reported in Mohr, et al. [4] may importantly affect the quality of shopper's nutrition decision making across label formats: whether or not shoppers have principal grocery shopping responsibility for the household. For instance, principal household grocery shoppers are probably more familiar with the current format and thus may perform more effectively and efficiently with the current format than with an unfamiliar alternative format (e.g., the graphical nutrient density format).

The purpose of the present paper is to report the results of a study designed to compare the effects of three nutrition label formats on the quality of consumer nutrition decision making: the current format, the graphical nutrient density format, and the simple graphic format (see Figure 1). Thus the present study replicates and extends the research of Mohr, et al. [4]. The effects of education level and principal shopping role on consumer nutrition decision making across the three label formats are tested.

METHOD

The present study utilized a survey instrument consisting of questions used by Mohr, et al. [4]. The questionnaire included items concerning consumers' food shopping patterns and their use of nutrition label information, questions tapping demographic characteristics, and three questions which asked shoppers to make nutrition decisions. Each of these latter three questions contained stimulus nutrition labels in one of three formats for three unidentified food products. The stimulus nutrition labels shoppers viewed in these three questions were in one of these three formats: current, graphical nutrient density, or simple graphic. In each of these three questions, shoppers were asked to decide which food product best solved the nutrition problem presented in that question. Two of the label formats used in these three questions exactly replicated those used in Mohr, et al. (current and graphical nutrient density), while a third format was added for the present study: the simple graphic format (see Figure 1). The simple graphic format contains nutrient information identical to that in the current format--it merely portray that information in a graphic, rather than a numeric, display. The instructions used in administering the questionnaire were identical to those employed by Mohr, et al.

Six supermarkets belonging to two large New England chains were selected for the study. At each supermarket, survey personnel asked shoppers to participate in a nutrition labeling survey as they passed the study area. Questionnaires, each containing one of the three nutrition label formats, were alternatively stacked and were handed out to shopper volunteers in order. While each shopper completed the final three nutrition items on the questionnaire, a researcher unobtrusively timed the shopper with a stopwatch.

RESULTS

Table 1 presents the mean number of correct responses to the three nutrition questions across label format conditions. The result of a oneway analysis of variance on the number of correct responses was significant ($F = 3.17$, $df = 135$, $p < .05$). Aposteriori contrasts using Scheffe's procedure revealed that shoppers using the graphical nutrient density format had significantly more correct responses than did respondents using the current format. This finding is consistent with that of Mohr, et al. [4]. However, there was also a significant difference in the number of correct responses between shoppers using the simple graphic format and the current format. There was no significant difference in the number of correct responses between the graphical nutrient density format and the simple graphic format. These findings indicate that the improved nutrition decision making evidenced with the graphical nutrient density format may be primarily a function of its graphic presentation of nutrition information.

Table 1 also shows the mean time taken by shoppers to answer all three nutrition questions across label format conditions. The result of a oneway analysis of variance on time taken was significant ($F = 5.96$, $df = 135$, $p < .01$). Aposteriori contrasts using Scheffe's procedure revealed that shoppers using the graphical nutrient density format took significantly less time to answer the questions than did respondents using the simple graphic format. Unexpectedly in the present study, that competing format was the simple graphic format. There were no significant time differences between shoppers using the current format and either of the other two formats. Unlike Mohr, et al., shoppers in the present study did not take significantly less time with the graphical nutrient density format than with the current format.

TABLE 1. Mean Number of Correct Responses to the Three Nutrition Questions and Mean Time Taken Across Label Formats.

	Nutrition Label Format		
	Current	Graphical Nutrient Density	Simple Graphic
Number of Correct Responses	1.80_a	2.26_b	2.04_b
Time (in minutes)	3.98	3.31_c	4.40_d
n	46	46	46

$_{a,b}$ $p < .05$ by Scheffe's procedure.

$_{c,d}$ $p < .01$ by Scheffe's procedure.

Table 2 presents percentage of correct responses on the three nutrition questions separately for two educational levels. While college graduates produced significantly fewer correct responses when using the current label format, the responses of those who have not graduated from college did not vary significantly across the three label formats. Unlike Mohr, et al. [4], shoppers in the present study who had graduated from college performed better using the graphical nutrient density format than the current format. It should be noted that among shoppers in both educational levels, there were no significant differences in performance between the graphical nutrient density format and the simple graphic format.

Table 3 presents the percentage of correct responses on the three nutrition questions separately for shoppers who have primary household grocery shopping responsibility and for those who either share such responsibility or for whom the responsibility belongs to some other household member. While shoppers who have primary grocery shopping responsibility produced significantly fewer correct responses when using the current label format, the responses of those not having primary shopping responsibility did not vary across the three label formats.

TABLE 2. Percentage of Correct Responses to the Three Nutrition Questions Across Label Formats, by Education Level.

College Graduates

		Nutrition Label Format		
		Current	Graphical Nutrient Density	Simple Graphic
	0	4.3%	0.0%	5.6%
Number of Correct Responses	1	17.4	17.4	11.1
	2	65.2	13.0	22.2
	3	13.0	69.6	61.1

n = 64

$p < .01$ by chi-square test.

Non-College Graduates[a]

		Nutrition Label Format		
		Current	Graphical Nutrient Density	Simple Graphic
	0	9.1%	0.0%	10.7%
Number of Correct Responses	1	31.8	22.7	25.0
	2	31.8	54.5	35.7
	3	27.3	22.7	28.6

n = 72

[a] High school graduates, some college, or trade, technical or business school.

DISCUSSION

The findings by Mohr, et al [4] that shoppers using the graphical nutrient density label format made better nutrition decisions than did shoppers using the current format was replicated in the present study. However, the present study also found that shoppers using the simple graphic format produced similar results. This finding provides evidence that the improved nutrition decision making in the graphical nutrient density format may be largely a result of the graphic presentation of nutrition information. The interpretive ambiguity inherent in the Mohr, et al. study now seems to have been clarified. It appears that it is the graphic nature of nutrition label information presentation that produces improvement in the quality of nutrition decision making.

TABLE 3. Percentage of Correct Responses to the Three Nutrition Questions Across Label Formats, by Primary Household Grocery Shopping Responsibility.

Primary Household Grocery Shopping Responsibility: Self

		Nutrition Label Format		
		Current	Graphical Nutrient Density	Simple Graphic
Number of Correct Responses	0	6.7%	0.0%	13.3%
	1	26.7	20.7	13.3
	2	50.0	27.6	33.3
	3	16.7	51.7	40.0

n = 89

$p < .05$ by chi-square test.

Primary Household Grocery Shopping Responsibility: Shared or Other

		Nutrition Label Format		
		Current	Graphical Nutrient Density	Simple Graphic
Number of Correct Responses	0	6.7%	0.0%	0.0%
	1	20.0	20.0	31.3
	2	46.7	40.0	25.0
	3	26.7	40.0	43.8

n = 46

The conclusion of the Mohr, et al. [4] study that the graphical nutrient density format is a more effective aid to consumer nutrition decision making than is the current format must now be amended to indicate that the simple graphic format is an equally effective aid. This amendment has clear implications for policymakers considering changes in nutrition labeling regulations. The simple graphic format has an advantage over the graphical nutrient density format in that it is less of a departure from the current format. The simple graphic format presents the same information as the current label in a graphic rather than a numeric format.

Somewhat surprisingly, the present study found that shoppers took less time to make nutrition decisions with the graphical nutrient density format than with the simple graphic format. Unlike the finding of Mohr, et al. [4], shoppers in the present study did not take less time with the graphical nutrient density format than with the current format. It is unclear why shoppers would take longer to use the simple graphic format than the informationally richer graphical nutrient density format. The graphical nutrient density format presents a fundamentally different kind of information from that found in the current format and the simple graphic format: it presents information about the relationship between amounts of particular nutrients in a food and the number of calories that food provides. Providing this additional nutrient density information appears to speed up consumer nutrition decision making.

For now, it seems a possibility that shoppers were able to use the information provided in the graphical nutrient density format more efficiently than the information in the simple graphic format to answer nutrition questions. Recalling that shoppers did not produce a greater number of correct responses with the graphical nutrient density format than with the simple graphic format, it might be proposed that the graphical nutrient density format improves the efficiency, but not the effectiveness, of nutrition decision making. A satisfactory explanation for why the graphical nutrient density format should improve efficiency but not effectiveness and why the simple graphic format should improve effectiveness but not efficiency must await further research. Such additional research should probably use a wider variety of nutrition decisions in order to provide evidence as to the generality of the proposition that the graphical nutrient density format improves the efficiency and the simple graphic format improves the effectiveness of nutrition decision making.

Before making changes in nutrition labeling regulations, policymakers may wish to consider the possible effectiveness-efficiency tradeoffs in selecting between the graphical nutrient density format and the simple graphic format. To make such a judgment at this time requires careful consideration of the true purpose(s) of nutrition labeling. To the extent that nutrition labeling is provided to help consumers make better (rather than merely faster) nutrition decisions, the simple graphic format would appear to have the edge.

Mohr, et al [4] did not attempt to explain their finding that high school graduates produced superior nutrition decisions with the graphical nutrient density format. Unlike the Mohr, et al. finding, shoppers in the present study who had graduated from college produced superior nutrition decisions with the graphical nutrient density and simple graphic formats . One possibility for this finding is that the graphical nutrient density and the simple graphic formats require a level of understanding of the spatial presentation of information that is more likely to be found among college graduates than among those who have not graduated from college. Another possibility is that the graphical nutrient density and simple graphic formats, as "new" stimuli, may have produced higher attention levels among college graduates (perhaps shopper viewed them as a "challenge"). Again, additional research is needed to provide an explanation for this finding. From a policy perspective, the central issue concerns who nutrition labeling can or should help. Research generally indicates that there is a tendency for nutrition knowledge and label usage to increase as educational level increases [3]. It would appear, based on the results of the present study, that implementation of either the simple graphic format or the graphical nutrient density format has the potential to improve the quality of nutrition decision making in large numbers of college educated consumers.

Shoppers in the present study who identified themselves as having primary responsibility for their household's grocery shopping produced better nutrition decisions with the graphical nutrient density and simple graphic formats. Despite the fact that these shoppers were presumably more familiar with the current format than their nonprimary grocery shopper counterparts, they still performed better with the competing formats. This might be a function of their degree of motivation or interest in nutrition. It also might be that their skills in using label information to make nutrition decisions are more finely honed, and that these skills carry over to the graphic formats. For policymakers hoping to improve the quality of nutrition decisions among consumers having primary household grocery shopping responsibility, the simple graphic format and the graphical nutrient density format both appear to have promise.

Finally, a brief note concerning future research on the effects of nutrition label format on consumer nutrition decision making. As was noted above, additional research is needed to increase understanding of several aspects of these effects. Most such research should probably be observational, rather than survey, in nature. Observational research, whether it is done instore or in the laboratory, will allow researchers to tap the nutrition decision making process in ways that surveys cannot do. For example, an observational study can enable researchers to determine how it is that consumers use the simple graphic format more effectively and the graphical nutrient density format more efficiently than the current format.

REFERENCES

1. Food and Drug Administration, **Food Labeling Background Papers**, U.S. Department of Health, Education, and Welfare, Public Health Service, Washington, D.C.: Author, 1982.

2. Food and Drug Administration, **Nutrition Labeling and Information Amendments of 1973 to the Federal Food, Drug and Cosmetics Act**, U.S. Department of Health, Education, and Welfare, Public Health Service, Washington, DC: Author, 1973.

3. General Mills, Inc., **A Summary Report on U.S. Consumers' Knowledge, Attitudes and Practices About Nutrition**, Minneapolis, MN: Author, 1980.

4. Mohr, K. G., Wyse, B. W., and Hansen, R. G. "Aiding Consumer Nutrition Decisions: Comparison of a Graphical Nutrient Density Labeling Format with the Current Food Labeling System," **Home Economics Research Journal**, 1980, 8:162-172.

5. Sorenson, A. W. and Hansen, R. G. "Index of Food Quality," **Journal of Nutrition Education**, 1975, 7:162-172.

6. U.S. Department of Agriculture/U.S. Department of Health and Human Services, **Design and Evaluation of Nutrition Label Formats; Information Kit**, Washington, D.C.: Author, 1982.

APPENDIX

A vertical line passing through the endpoint of the calorie bar in the graphical nutrient density format is intended to encouraged consumers to compare nutrient densities across food products. Further, this format encourages consumers to select foods in which the nutrient bars pass to the right of the vertical line (i.e., foods for which the nutrient calorie ratio is greater than 1:1).

REFLECTIONS ON CUDE AND RUDD

E. Scott Maynes, Cornell University[1]

Research may be defined as the activity that provides a persuasive answer to an important question. As critic, of these research papers, I will seek to discharge my responsibilities to both consumers and producers of these papers. With the consumer as my client, I will ask (1) whether the authors have addressed important questions, and (2) to what extent they have provided persuasive answers. Addressing the author's needs as producers, I will suggest (1) avenues for the improvement of their research, and (2) directions for future research.

APPROPRIATE TOPICS

I salute the authors of the three papers in this session for selecting topics that are (1) interesting, (2) important, and (3) do-able.

Two of the papers involve replications of earlier research. I salute the authors of these papers for recognizing the important role that replication has in scientific inquiry. Often, one test is not enough to establish a result.

Brenda Cude's paper is a model of good writing and clarity of presentation. I doff my hat.

But I would suggest to Professor Cude a title that conveys its message more graphically, for example, "Informationally Imperfect Markets: The Path to Poverty." As Cude's data show, informationally imperfect markets can rob innocent or inept consumers of large chunks of their purchasing power.

THE MORRIS-CUDE MEASURE OF POTENTIAL LOSSES: A CRITIQUE

Ruby Turner Morris should be an ACCI and consumer hero/heroine: she was the first to drive home the still underappreciated truth that informationally imperfect markets are chaotic, characterized by near-zero correlations between price and quality and utterly resistant to simple rules of thumb [2].

Morris was also the first to provide us with a dollar estimate of "potential losses from haphazard purchasing" [3]. But her measure of potential losses is open to major improvements.

So, while replication is to be commended in general, I chide Brenda Cude for reproducing Morris's approach rather than improving it.

As her measure of potential loss, Morris chose the case producing the maximum loss possible. She compared the highest price paid for the poorest quality variety with (2) the lowest price paid for the highest quality, the quality estimates resting on CU's ratings. And Cude followed.

In my view, credibility and plausibility would have been improved by also measuring and presenting two more "conservative" measures:

1. The average price paid for all varieties less the lowest price paid for the highest quality.

   --The rationale: The average consumer choosing both price and quality randomly would pay this price, on the average.

2. The average price for the worst quality less the lowest price paid for the highest quality.

   --Here the consumer is assumed to fare "worst" only in the matter of quality, paying an average price for that quality.

Of course, these measures would yield lower estimates of potential loss. But to skeptics, these estimates might be more believable.

List Prices, Not Actual Prices

Consumers Union (CU), which serves the consumer so well in so many ways, serves consumers ill in the manner in which it provides information on price and quality. Price first.

Consumer Reports (CR), typically publishes the list price or manufacturer's suggested retail price for each of the varieties that it tests. Sometimes it publishes the price that "CU's shoppers paid" or comments that "discounts are widely available."

Brenda Cude, like Rudy Morris before her, relied on CR's list or manufacturer's suggested retail prices. In this critic's judgment, both Cude and Morris erred. They should have collected actual local prices.

Figure 1 makes the case. It depicts actual local prices, "suggested retail" prices as published by Consumer Reports (November, 1982, p. 552), and Susan Gover's quantification of quality data published in Consumer Reports for portable electric typewriters in a small town

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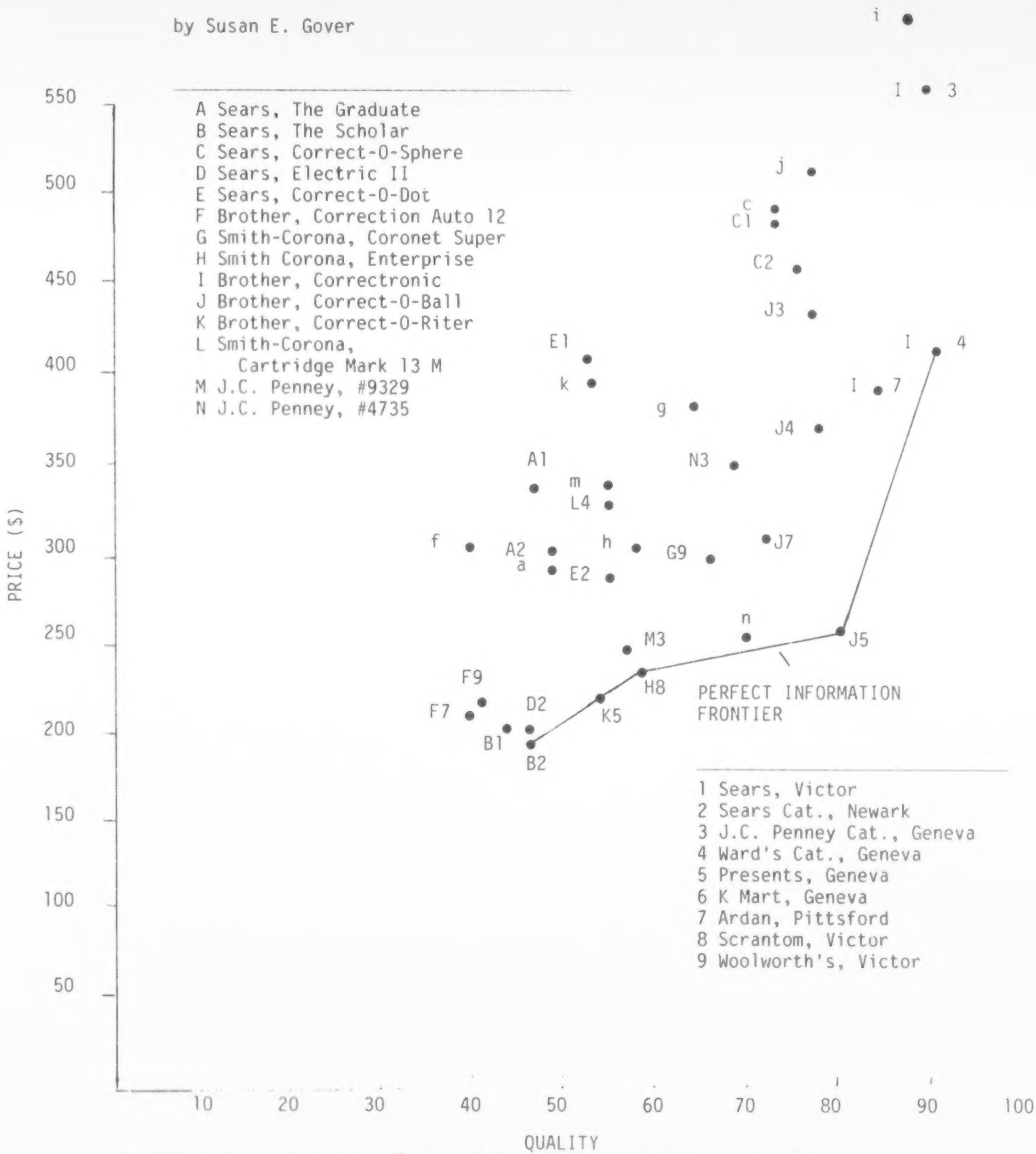
[1] Professor, Consumer Economics and Housing

FIGURE 1. PRICES AND QUALITY FOR PORTABLE ELECTRIC TYPEWRITERS*
Phelps, NY April 18-24, 1983

by Susan E. Gover



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* Source for List Price: Consumer Reports, November 1982, p. 552.
Lower case letters denote list price.

market centered in Phelps, N.Y.[2] Price and brand-model-*retailer* combination. Hence, both price and quality may take into account characteristics of retailers, e.g., locational convenience, helpfulness, etc. This is why quality scores plotted for identical brand-models, e.g., Typewriter I, may differ. Presumably Susan Gover found the characteristics of Ward's Catalogue Store in Geneva more attractive than those of Ardan in Pittsford. (Compare I4 with I7.)

The potential lesson of Figure 1 for the estimation of potential loss is that list prices may *not* represent true prices, and hence *not* be a valid measure of potential loss. In fact, in this particular case actual prices and list prices yield almost identical estimates of potential losses. But a single example is seldom persuasive.

What Brenda Cude should have done--and perhaps should do now--is to estimate the correlation between actual and list prices for a large, representative sample of products. The evidence thus obtained would help us judge whether the present estimates of potential loss are credible.

This chart should give pause to the staff of Consumers Union. Is there not some way that they can convey the dramatic differences between actual prices and list price instead of the bland warnings they now include? Why not a price-quality chart?

The Matter of Poor Quality

Losses from purchases of poor quality products are just as real as losses from paying too high a price. But they are difficult to quantify. For this reason the Morris-Cude measure of potential loss takes no account of losses due to the selection of poor quality brand-models.

Figure 1 expresses quality in the appropriate form: *cardinally*. That is, Typewriter J5 with a quality score of 80 is 38 percent better than Typewriter H8 with a quality score of 58 (80/58 = 1.38). Why is a cardinal measurement better? Because a consumer spends money that is cardinal, i.e., \$1 is twice as much as \$0.50; \$0.80 is 80 percent as much as \$1. If one spends cardinal money, it is rational to pose questions about quality in cardinal terms. Look again at Figure 1. A consumer possessing this chart might reasonably ask: instead of buying Typewriter H8 for \$240, it is worth spending \$10 more to buy Typewriter J5 for \$250? To answer his question, he must know *by how much* J5 is better than H8. The answer, as calculated above, is 38 percent.

By contrast, the answer given by CR to the same question is highly unsatisfactory. CR tells the reader only that J5 is better than H8. It tells the reader nothing about the degree of betterness. This is especially galling to consumer economists because we know that CU's testing department calculates for each brand-model the cardinal (or numerical) quality score that Susan Gover has sought to reconstruct. The reason why CU publishes *orderings* of quality rather than numerical quality scores is their fear that readers may misunderstand numbers.[3] The only exception to this practice is the numerical quality scores that CU has published over the last decade for audio equipment and food.

There are several challenges here, both to CU and to researchers. CU should again ask itself whether it is serving its subscribers-members well by concealing rather than publishing numerical quality scores. Further, I would suggest that CU would serve itself and its subscribers-members better by treating quality scoring as a scientific problem and inviting comment and scrutiny by the academic community, especially by those in a kindred organization like ACCI.

The quantification in dollar terms of losses from purchases of poorer quality poses an intellectual problem worthy of our best minds. It should be on the research agenda of many of us.

Meanwhile, I agree, limply, with Morris-Cude that their measure of potential loss understates losses because it takes no account of the poorer quality that haphazard purchases may yield.

For any readers wishing to know more about the details of how CU tests and scores quality, see [1] and [6]. Though published some time ago, CU's testing and scoring methods have remained unchanged. [1] was reviewed by CU's Technical Director and department heads before publication.

RUDD

Joel Rudd's article poses three issues, all procedural: (1) Reproducibility and Clarity of Explanation, (2) Multiple Publications from the Same Study, (3) Careful Statement of Claims.

Reproducibility and Clarity

Scientific writing requires clarity in explanation and completeness of description so that (1) readers can understand the experiment/ survey/-analysis under discussion, and (2) readers could, if so moved, reproduce the study and its results. Only with reproduction/ replication can a result be established firmly.

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[2] Susan E. Gover, who prepared this chart while an undergraduate at Cornell, is now a Cooperative Extension Agent in Wayne County, New York.

[3] This statement is based upon numerous conversations the author has had over the years with Irwin Landau, Editorial Director of CU.

As to clarity, examine Figure 1 in Rudd's paper. as presented in the paper distributed at ACCI, a colleague and I--both consumer economists but neither versed in nutritional science--were unable to grasp the essential difference between (1) the *simple graphic format*, and (2) the *graphical nutrient density* format. We noted that the graphical nutritional density format included (1) information on calories, and (2) a vertical guideline denoting the 5 percent RDA level. We wondered how such minuscule differences could give rise to the dramatic differences in understanding recorded in Table 1. It was only through Joel Rudd's verbal presentation at ACCI that we understood the essential difference in format.

By agreement with Joel Rudd, the paper published here will seek to explain fully these essential differences.

Understanding and reproducibility also demand the publication of the *exact wording of questions* from which data are obtained. This is because the distribution of responses to questions is a function of the exact wording of the questions asked. Phrased more graphically, a self-seeking survey researcher can obtain almost any distribution of results he/she wishes by altering the wording of a question! See Shuman and Presser [5] for a documentation of some of these effects. For this reason I criticize Joel Rudd for failing to reproduce in his original paper the exact wording of the three questions giving rise to the data in Tables 1, 2, and 3. By agreement with Joel Rudd, the paper as published here makes good this fault.

Multiple Publication from the Same Study

Joel Rudd's article is not the first to be published from his study. Another article, suitably tailored in analysis and content to the different audience of the *Home Economics Research Journal*, has just been published [4]. The article was received by the Editors on November 7, 1984 and accepted for publication on October 6, 1985. I reprove Joel Rudd for not leveling with the ACCI Conference Chairman, this critic, and those attending ACCI by disclosing the existence of the other article.

But his behavior raises the entire issue of the appropriateness of the publication of similar papers in different journals. Our field, being multi-disciplinary and applied, suffers the disadvantages of segmentation by discipline and specialized interests. We probably do not need a survey to establish that many readers of JCA are not readers of (say) the *Home Economics Research Journal*, the *Journal of Consumer Research*, or the *American Economic Review*. If this is true, it follows that the maximum distribution of knowledge is advanced by multiple publication of the same or similar articles in different journals, suitably tailored to the needs of each audience. It goes without saying, however, that the author should inform editors and readers as to alternative outlets, either past or in process.

Careful Statement of Claims

Scientific writing requires care and precision in description. In stating the purpose of his study, Joel Rudd writes (p. 6): "The purpose of the present paper is to report the results of a study designed to compare the effects of three nutrition label formats on the quality of consumer nutrition *decision-making*. . . ." [Underlining mine.] Wrong! This study reports on respondent's ability to answer questions after they have been asked to examine nutrition information contained in mock nutritional labels under three alternative formats. It does *not* explore whether the subjects would examine the labels on their own volition. It does *not* study how well information is transmitted from the three formats under real life conditions. Hence, Rudd's study does not focus on decisions, instead it deals with the ability of consumers to assimilate information from three formats.

We--and Joel Rudd, too--*hope* that consumers will read the labels and we *hope* that the labels, if read, will be as effective under real life conditions as they were under the highly artificial conditions of the experiment.

Rudd's summary statement in the Abstract was worded more carefully: "Findings indicate that supermarket shoppers are *able* to make nutrition decisions most effectively with the simple graphic . . . ." [Underlining mine.] The Abstract is the most important part of any paper. I commend Joel Rudd's conservatism here.

REFERENCES

1. Maynes, E. Scott. *Decision-Making For Consumers, An Introduction to Consumer Economics*. New York: Macmillan, 1976.
2. Morris, Ruby Turner and Bronson, Claire Sekulski. "The Chaos of Competition Indicated by Consumer Reports," *Journal of Marketing* (July, 1969), 26-34.
3. __________. "The Potential Loss in Money Income to the American People by Haphazard Purchasing," *Journal of Consumer Affairs*, 4: (Winter, 1970), 103-112.
4. Rudd, Joel. "Aiding Consumer Nutritional Decisions with the Simple Graphic Label Format," *Home Economics Research Journal*, 14 (March, 1986), 342-346.
5. Schuman, Howard and Presser, Stanley. *Questions and Answers in Attitude Surveys*. Orlando, Florida: Academic Press, 1981.
6. Thorelli, Hans B. and Thorelli, Sarah V. *Consumer Information Handbook: Europe and North America*. New York: Praeger, 1974.

COMMENTS ON "COMMUNICATING PERFORMANCE INFORMATION TO CONSUMERS OF CLOTHING: AN ECONOMIC ANALYSIS," by Wanda Sieben and Jean Kinsey

Jennifer L. Gerner, Cornell University[1]

This paper provides a useful overview of the literature dealing with labelling, particularly care labelling for clothing. Although the literature is not extensive, there is some descriptive work and, in addition, there is some related literature that provides a framework for analysis of the impact labelling might have on consumers and the market for clothing. This paper identifies this literature and adapts the Kinsey, Roe, and Sexauer elaboration of the Peltzman model to this problem.

The disappointing aspect of this paper is that it provides no empirical work. The Kinsey, Roe, and Sexauer model predicts that there is some consumer surplus loss associated with misleading information or information which is not complete. Sieben and Kinsey argue that labelling in clothing often leads to misunderstanding or false expectations by consumers. However, before many resources are used to correct this problem, it is important to know how important it is. It may be substantial or it may be quite limited. The empirical work required to evaluate the size of the problem remains undone.

The size of the consumer surplus loss associated with misinformation in this case may be limited because of the role of repeat purchases and brand recognition in clothing. Sieben and Kinsey point out that brand recognition has been important in these products, sometimes serving to provide guarantees of quality. If this is true, and if label information misinforms or misleads consumers, manufacturers will surely feel the effects of this in future sales. It might be fruitful to build this into the model itself so that its effects can be predicted.

Labelling is an important topic in consumer economics. Much of our consumer protection policy is designed to inform consumers through labelling. Because this is true, more empirical work is needed to evaluate the extent to which labelling truly provides information.

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[1] Associate Professor, Consumer Economics and Housing.

STRESS FROM FINANCIAL PROBLEMS AND WAYS OF COPING: IMPLICATIONS FOR FAMILY FINANCIAL COUNSELORS

Joye J. Dillman[1] and Sally E. Horton[2], Washington State University

ABSTRACT

A random sample of 607 Washington residents was interviewed to identify sources of stress and methods of coping. In this paper the authors describe and compare the group of people who indicated that financial problems are causing them the most stress with the group identifying other problems as their greatest cause of stress. Chi-square tests show four financial and one other source of stress to be significantly related to the first of these groups. Two sources of stress were significantly related to the group reporting other problems. Five ways of dealing with stress were significantly related to the reporting of financial problems as the greatest source of stress. Implications for financial counselors are discussed.

INTRODUCTION

It is generally assumed that families are under more stress today than in the recent past. That stress comes from many different sources. The divorce rate has more than doubled in the last two decades and the number of teen pregnancies has tripled since the early 1970s. Currently, one out of four families with children under 18 is headed by a single parent [13]. Nearly half of the families living below the poverty line are maintained by women [12]. Dual-worker and dual-career couples are no longer in the minority, and the problems of time pressures and inadequate day care concern these as well as single-parent families. The extent of family violence shocks the nation.

There is a great deal of uncertainty about the direction of the American economy. Many states have suffered tremendous economic upheavals and pockets of persistent high unemployment. High interest rates and inflation have created additional problems. These factors and others have contributed to stress in American families.

As individuals progress through the life cycle, some events such as setting out on one's own or the transition to parenthood are predictable, or normative crises. Stress from unanticipated experiences such as unemployment, illness, or divorce, described by McCubbin as nonnormative events, places the individual or family in a state of instability [4,5].

People use a number of coping strategies as they deal with the instabilities and resulting stress they are feeling. Some of those coping strategies are considered to be productive as they contribute new information, help reestablish an internal balance, or reorient the individual to the problem situation. Other coping strategies, including various defense mechanisms, are non-productive or even destructive in their effects on the individual or the affected family [15].

Coping strategies may be related to the problem which individuals identify as causing the most stress in their lives. Are certain coping strategies more likely to be used by persons experiencing stress from unemployment or financial problems? Are these strategies useful for coping with such problems?

Financial counselors could be more effective when working with persons experiencing stress from financial problems if they knew sources of that stress and the methods those persons use to cope with their stress. Counselors could then use counseling methods to provide an environment for reinforcement of more effective coping strategies or promotion of change from the less effective or destructive coping techniques.

In this paper the authors will describe and compare a group of persons who indicated that financial problems are causing the most stress in their lives with a group of persons identifying other problems as their greatest cause of stress. Specific sources of stress will be examined as will methods of coping with stress. Tests of significance will be applied to determine if there are significant differences between the groups of respondents with respect to sources of stress, means of coping, and demographic characteristics.

METHODOLOGY

Interviews

A statewide sample of Washington residents was interviewed by telephone during December 1984 and January 1985. Interviews were conducted utilizing a Computer Assisted Telephone Interviewing (CATI) system, and Random Digit Dialing (RDD). To give every adult an equal chance to respond, the person over 18 who had had the most recent birthday was selected for the interview [3]. Interviews averaging 20 minutes were completed with 607 individuals, or 67% of those asked to participate.

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[1] Associate Professor, Child and Family Studies

[2] Extension Family Economics Specialist

TABLE 2. Characteristics Of Sample By Respondents' Reporting Of Their Greatest Cause Of Stress.[1]

Characteristics	N	Financial Problems(%)	Other Problems(%)
Age: X^2 = 10.90 (.03)			
18-29	178	24.6	75.4
30-39	159	22.9	77.1
40-49	64	13.4	86.6
50-65	103	15.0	85.0
66-89	48	8.1	91.9
Sex: X^2 = 2.10 (N.S.)			
Male	265	22.1	77.9
Female	288	17.2	82.8
Children: X^2 = 5.30 (.071)			
No Children	151	21.3	78.7
Children, none at home	134	12.6	87.4
Children at home	255	21.9	78.1
Employment Status: X^2 = 24.34 (.0001)			
Employed	357	20.4	79.6
Unemployed	29	50.5	49.6
Retired	80	11.8	88.2
Student/Homemaker	85	12.0	88.0
Income: X^2 = 16.79 (.002)			
Less than 10,000	82	30.5	69.5
10,00 to 19,999	130	23.3	76.7
20,00 to 29,999	111	22.0	78.0
30,000 to 39,999	95	12.4	87.6
40,000 or more	103	10.0	90.0
Housing: X^2 = 9.02 (.003)			
Own Home	329	14.9	85.1
Rent	198	25.5	74.5
Location: X^2 = .008 (N.S.)			
East (primarily rural)	141	19.3	80.7
West (primarily urban)	412	19.6	80.4

stress decreases. Lastly, almost twice as many renters as owners are most concerned with financial problems.

Sources of Stress

Responses for moderate stress and great stress were combined for each of the twenty items representing sources of stress (Table 3) and then ranked from highest to lowest for each group. "Concern for your child or children" is the greatest source of moderate or great stress for both groups, and the twentieth ranked item for both was "a household member's use of alcohol or drugs."

Table 4 reports chi-square tests for the seven items exhibiting a significant relationship with the greatest cause of stress. The four financial items (1) "having enough income to pay bills on time," (2) "your overall financial condition," (3) "unemployment in the household," and (4) "the security of your job" were more likely to be a source of stress for people whose greatest cause of stress is financial problems. A fifth item, "having reliable transportation to get places you need to go" was also associated with the group experiencing financial problems. Respondents indicating other problems as the greatest cause of stress were more likely to report "your own health" or "the death of a friend or relative" as sources of stress.

Methods of Coping with Stress

Following the questions regarding sources of stress, the respondents were told: "One of the most important things we hope to learn from this study is the things people do to relieve any tension, nervousness, or stress they feel in their daily lives. I would like to read to you a list of things people sometimes do to handle stress. For each one I would like to ask whether you frequently, sometimes, seldom, or never use it to deal with stress you are feeling." The results of this question appear in Table 5.

There are striking similarities between the two groups in the ways persons deal with stress they are feeling. The first three items were ranked identically in terms of frequent use by respondents. Some differences are evident when the percentage of respondents frequently using items ranked 5 to 11 are examined.

Chi-square tests of significance are reported in Table 6. Persons who report financial problems as the greatest cause of stress are significantly more likely to frequently (1) "smoke," (2) "eat something," (3) "get angry," and (4) "yell" than are persons who report other problems as the greatest cause of stress. On the other hand, persons who report problems other than financial problems are more likely to "get exercise or go jogging" than those persons experiencing financial problems.

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[1] People living in Eastern Washington and women were overrepresented in the sample. Data presented in this paper are weighted so they accurately represent the state population on these two characteristics.

Instrument

The instrument consisted of questions about problems in respondents' communities, the degree of stress experienced personally from 20 different sources of stress and what caused them the most stress overall. Stress was defined to the respondents as "...pressures that cause people to feel upset, tense, nervous or worried." Respondents were asked to what extent they used 20 different methods of dealing with stress, and their most effective way of dealing with stress. The instrument concluded with demographic questions.

Determining the Greatest Cause of Stress

This paper focuses on financial problems as the greatest cause of stress in comparison with all other problems as the greatest cause of stress. The question used to determine the "greatest cause of stress" occurred at the middle of the interview.

Respondents first answered general questions regarding problems of families in their communities and stress in their own lives. The question which followed was "Next I would like to read to you a list of concerns that people have mentioned to us as important causes of stress in some people's lives. For each one, please indicate whether it causes you no stress at all, a little stress, a moderate amount of stress, a great amount of stress in your daily life, or whether it does not apply to you." The data on these twenty items will be reported later from Table 3.

Next they were asked "Thinking of all of the things that might be stressful to you, regardless of whether they were on the list I just read, what is the single most important thing causing any stress you are feeling in your life?" The advantage of this question structure and sequence was that it encouraged respondents to think for several minutes about the possible causes of stress in their lives before being asked to pinpoint the single most important cause. Hence, a more thoughtful answer could reasonably be expected.

TABLE 1. The Single Most Important Thing Causing Stress.

Category of Stress	Total	Percent
Concerns about self	126	21.4
Parenting	62	10.6
Family relations	80	13.7
Financial problems	108	18.4
Work or school	88	14.9
Other concerns	90	15.3
No stress reported	34	5.7
	588	100.0

Data from the open-ended question were coded into common categories as presented in Table 1. Financial problems, including those of unemployment, were indicated as the greatest source of stress by 18% of the 588 persons who answered the question, or 19.5% of those reporting stress from any sources [1,3].

FINDINGS

Persons designating financial problems were compared with the group of respondents who identified any other problem as their greatest cause of stress. It would be erroneous to assume that persons in the "other problems" group were not experiencing any stress related to financial problems or that persons with "financial problems" were only experiencing stress of that kind. It is assumed people responded with their greatest cause of stress.

Sample Characteristics by Greatest Cause of Stress

The portion of the sample expressing financial problems as their greatest cause of stress was examined to determine if there were differences between that group and persons expressing other problems. Chi-square tests of significance (Table 2) reveal that there are significant differences between the two groups of respondents in some characteristics. There is an inverse relationship between age of the respondent and the likelihood of financial problems being the greatest cause of stress; i.e., younger people are more likely than older people to express financial problems as the greatest source of stress.

Women commonly receive lower incomes than men, and financial stress is associated with separation, divorce, and single parenthood [2,9]. In this study neither the sex of the respondent nor their marital status was significantly associated with financial problems as the greatest cause of stress.

There is a weak association ($p = .07$) between financial problems as a cause of stress and the presence or absence of children in the home. Respondents with children, but with none living at home, were least likely to mention financial problems as their greatest cause of stress. This may also be because they are likely to be older.

Three economic factors also display significant differences between the two groups: employment status, income, and housing tenure. Surprisingly, only 50% of unemployed respondents indicated financial problems as the greatest cause of stress. Only 12% of retired persons were so stressed. An inverse relationship exists with income, that is as income increases the percentage of respondents mentioning financial problems as the greatest cause of

TABLE 3. Sources Of Moderate And Great Stress By Persons With Financial Problems As The Greatest Cause Of Stress And Persons With Other Problems As The Greatest Cause Of Stress.[1]

Source Of Stress	Financial Problems As Greatest Cause Of Stress		Other Problems As Greatest Cause Of Stress	
	%	Rank	%	Rank
Concern for your child or children	72.0	1	65.4	1
Having enough income to pay bills on time	71.9	2	38.6	9
Your overall financial condition	70.1	3	40.5	8
Unemployment of someone in your household	57.1	4	32.3	11
Finding enough time to do everything you are expected to do	55.6	5	54.4	2
Concern for your spouse or living partner	53.7	6	43.0	7
Concern about protecting the natural environment	48.9	7	47.1	5
Concern about an aging parent or parents	42.7	8	48.1	4
Other aspects of your job	42.3	9	50.8	3
The security of your job	38.5	10	22.6	15

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[1] Items ranked from 11 through 20 for the group with financial problems were: concern about other close relatives or friends, other national or international problems you hear about in the news, having reliable transportation to get to places where you need to go, the threat of nuclear war, concern about having something stolen or being a victim of some other crime, you own health, living in a house or residence that does not meet your needs, a recent death of a friend or relative, illness or injury to someone in your household, and a household member's use of alcohol or drugs.

TABLE 4. Significant Differences In Sources Of Stress By Persons With Financial Problems As The Greatest Cause Of Stress And Persons With Other Problems As The Greatest Cause Of Stress.

GREATEST CAUSE OF STRESS	SOURCES OF STRESS						
	Having Enough Income to Pay	Overall Financial Condition	Unemployment in Household	Security of Your Job	Own Health	Death Friend/ Relative	Reliable Transportation
Financial Problems (%)							
Great stress	37.0	32.9	32.0	15.0	5.9	4.3	11.9
Moderate stress	35.0	37.2	25.2	23.5	19.9	15.3	17.9
A little stress	16.6	21.9	16.1	32.0	27.8	5.1	21.2
No stress	11.5	8.0	26.8	29.5	46.4	75.3	56.8
Other Problems (%)							
Great stress	18.7	9.3	13.4	8.6	9.5	10.3	6.3
Moderate stress	19.9	31.2	18.9	14.1	13.6	9.8	11.6
A little stress	20.7	29.2	18.0	21.4	43.8	10.6	19.7
No stress	40.7	30.3	49.7	56.0	33.1	69.2	62.4
X^2 (3 d.f.)	43.48	53.85	16.22	15.62	13.28	9.10	8.98
p	.0001	.0001	.001	.001	.004	.028	.03

TABLE 5. Frequently Used Ways To Deal With Stress By Persons With Financial Problems As The Greatest Cause Of Stress And Persons With Other Problems As The Greatest Cause Of Stress.[1]

Ways Of Dealing With Stress	Financial Problems As Greatest Cause Of Stress		Other Problems As Greatest Cause Of Stress	
	%	Rank	%	Rank
Talk to a friend or relative about the problem	41.0	1	49.8	1
Joke or use humor	40.4	2	44.5	2
Try to change what you say or do so the stressful situation does not occur again	35.9	3	35.7	3
Keep your feelings to yourself so others do not know you are stressed	34.7	4	34.3	5
Smoke a cigarette	31.0	5	17.2	8
Meditate, pray or read religious material	30.1	6	29.7	6
Eat something	28.9	7	16.0	9
Get exercise or go jogging	28.8	8	35.3	4
Go somewhere to be alone	21.7	9	20.8	7
Get angry	21.5	10	15.1	10
Yell at someone	17.4	11	8.4	14

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[1] Items ranked from 12 through 20 for the group with financial problems were: spend money, try to get others to change, talk to a professional such as a counselor or doctor, cry, have a drink of beer, wine, whiskey, or something like that that, simply give up and not do anything, take a tranquilizer or other medication, hit something or someone, and talk to a stranger about the problem.

TABLE 6. Significant Differences In Ways People Deal With Stress By Greatest Cause Of Stress.

GREATEST CAUSE OF STRESS	WAYS OF DEALING WITH STRESS				
	Smoke	Eat Something	Exercise	Get Angry	Yell
Financial Problems (%)					
Frequently use	31.0	28.9	28.8	21.5	17.4
Sometimes use	2.9	27.2	23.7	49.4	26.7
Seldom use	2.9	16.9	25.6	23.2	29.6
Never use	63.3	27.1	21.9	5.9	26.3
Other Problems (%)					
Frequently use	17.2	16.0	35.3	15.1	8.4
Sometimes use	9.6	31.4	27.4	40.0	26.7
Seldom use	2.6	20.2	14.7	32.5	30.2
Never use	70.6	32.4	22.7	12.5	34.8
x^2 (3 d.f.)	13.60	9.61	7.64	9.77	8.87
$\underline{p}$	.003	.02	.05	.021	.031

DISCUSSION AND IMPLICATIONS

Financial counselors are instructed to "understand the person with the problem" in order to be effective in their work with persons experiencing financial stress [7,8,10,11,14]. This study provides useful information about financially stressed Washington families, and it may also provide insights for financial counselors in other states.

Financial problems are the greatest cause of stress for 18% of the sample of Washington households. This finding, based on responses to an open-ended question, is validated by a related finding to a close-ended question. Specifically, those who mentioned financial problems as their greatest cause of stress were significantly more likely to report "[not] having enough income to pay bills on time," "overall financial condition," "unemployment in the household," "security of the job," and "having reliable transportation" as sources of stress. Respondents experiencing stress from financial problems are more likely to be young, have lower incomes, and live in rented housing.

Half of the unemployed persons in this study indicated that financial problems were their greatest cause of stress. This group may be made up primarily of persons who are especially vulnerable to the effects of the loss of their job. For example, people who are located in areas with high unemployment, have heavy mortgage or other credit obligations, have children to support, and have few other resources to call on find it especially hard to deal with financial stress [6, p. 151].

The other 50% of unemployed respondents who report other problems as their greatest cause of stress may fit into two other categories with regard to financial stress. First, persons may be described as having "readjustive invulnerability." That is, they may be able to muster personal resources such as savings or the employment of another family member. They may also be able to rely on community resources such as of AFDC or unemployment compensation so that they are able to prevent or minimize stress from unemployment. Alternatively, some persons who are experiencing unemployment may be "invulnerable." They are able to resist the pressure of unemployment without experiencing stress because they expect to find employment soon [6, p. 151]. Thus, it should not be assumed that financial problems are the greatest source of stress faced by every unemployed person in the sample.

Persons experiencing financial stress use several methods to cope with the stress they are feeling. They are equally as likely as other Washingtonians to talk with others about problems, joke or use humor, try to change themselves so the stressful situations will not occur again, or keep feelings to themselves. These coping strategies offer counselors and their clients the potential to gather more information about the problem, to allow time to reorganize oneself, or to plan other ways of dealing with stress [15].

Results of data analysis also indicate that persons experiencing financial stress are significantly more likely to smoke, eat something, get angry, or yell at someone as a way of dealing with stress. Expressing anger and yelling both have the potential for releasing tension and thus freeing the person to begin working on the problem in a more productive way. The negative aspects of these two coping behaviors may, however, overshadow other coping strategies, especially when one considers the object of the anger or yelling. Anger may also be felt, but not expressed. Anger which is internalized may short-circuit client and counselor plans and lead to further frustration or depression.

Smoking and eating, as diversions, could provide for a "strategic withdrawal" to gather strength for later action. As compulsive behaviors they may become defense mechanisms which inhibit or block constructive ways of adaption to stress.

Understanding clients implies sensitivity and acceptance of their situation in a nonjudgmental way. It is important for counselors to determine if the financial problems are the result of external factors beyond the clients' control or if personal spending habits are the problem. Some persons may be experiencing financial stress through no fault of their own. For example, an aluminum plant cuts back on its work force, a lumber mill closes down due to lack of demand for its product, or farm prices fall below the cost of production. Those persons are likely to feel out of control in the situation. Responses of yelling and anger may be expressions of true frustration by persons who have been effectively adapting to change before unemployment took place. Acceptance of anger as a valid expression of stress can lead to the development of more effective coping strategies. Alternatively, some financial stress is the result of a lack of self control or excessive spending. Counselors and clients may be able to work more effectively on problems the client can control. In either case, if the client or family asserts "it's not my fault," little progress can be made.

Talking with "a professional such as a counselor or doctor" is a productive coping mechanism, but only 6% of the respondents report seeking professional help frequently. Those persons who do reach the stage of seeking help need to have their stress recognized. This acknowledgment of stress will enable then to move on to problem solving that will help create order, enhance self-esteem and convey hope for the future.

REFERENCES

1. Dillman, J.J., Horton, S.E., Richarz, S., Ray, M.P., Gallwey, M., Gladow, N.W., Rogers, J., Clark, J., Price, D.Z., and Barber, K.E. *Stress in Washington Families* (slide set with script). Pullman: Department of Child and Family Studies, Washington State University, 1985.

2. Espenshade, T. "The Economic Consequences of Divorce." *Journal of Marriage and the Family* 41 (1979):615-623.

3. Gallwey, M., Gladow, N.W., Ray, M.P., Dillman, J.J., Horton, S.E., Richarz, S., Rogers, J., Clark, J., Price, D.Z., and Barber, K.E. *Washington Stress Inventory: A 1985 Assessment of Stress in Washington Families* (XB 0967). Pullman: Washington State University Agriculture Research Center, 1985.

4. McCubbin, H.I., Cauble, A.E., and Patterson, J.M., eds. *Family Stress, Coping, and Social Support*. Springfield, IL: Charles C. Thomas, 1982.

5. Melson, G.F. *Family and Environment*. Minneapolis: Burgess Publishing Co., 1980.

6. Moen, P. "Preventing Financial Hardship: Coping Strategies of Families of the Employed." In *Family Stress, Coping, and Social Support*. Edited by H.T. McCubbin, A.E. Cauble, and J.M. Patterson. Springfield, IL: Charles C. Thomas, 1982.

7. Pulvino, C.J. and Lee, J.L. *Financial Counseling: Interviewing Skills*. Dubuque: Kendall/Hunt, 1979.

8. Puryear, D.A., *Helping People in Crisis*. San Francisco: Jossey-Bass, 1979.

9. Sawhill, I. "Discrimination and Poverty Among Women." *Signs* 1 (3,2 1976):201-211.

10. Simmons, H.M., Webb, A.H., and Sporakowski, M.J. *A Financial Counseling Manual*. Blacksburg: Virginia Polytechnic Institute and State University, 1977.

11. Sporakowski, M.J. "Financial Problems as Stress and Crisis." In *Developing a Personal Approach to Financial Counseling*. Edited by D.R. Harvey, D.C. Myhre, M.J. Sporakowski, and A.H. Webb. Blacksburg: Virginia Polytechnic Institute and State University, 1979.

12. U.S. Dept. of Commerce, Bureau of the Census. *Characteristics of the Population Below the Poverty Level: 1983*. Current Population Reports P-60, No. 147. Washington D.C.: U.S. Government Printing Office, 1985.

13. U.S. Dept. of Commerce, Bureau of the Census. *Household and Family Characteristics: March 1984*. Current Population Reports, Series P-20, No. 398. Washington D.C.: U.S. Government Printing Office, 1985.

14. Van Arsdale, M.G. *A Guide to Family Financial Counseling*. Homewood, IL: Dow Jones-Irwin, 1982.

15. White, R.W. "Strategies of Adaption: An Attempt at Systematic Description." In *Coping and Adaption*. Edited by G.V. Coelho, D.A. Hamburg, and J.A. Adams. New York: Basic Books, 1974.

SATISFACTION/DISSATISFACTION
WITH FINANCIAL MANAGEMENT AMONG MARRIED STUDENTS

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ABSTRACT

This study was designed to determine the relative importance of budgeting, record keeping, financial preparedness for emergencies, debt-to-income ratio, changes in income and saving assets and bill payment problems in explaining satisfaction/dissatisfaction with financial management practices among married students. Data were collected from 184 wives in student families living at Iowa State University Housing Community. Multivariate regression was used to analyze the data. The findings indicate that perceived usefulness of budgeting, keeping track of cancelled checks, and financial preparedness for small emergencies were more strongly related to satisfaction/dissatisfaction with financial management practices among married students than several other financial management practices.

INTRODUCTION

The United States, and indeed the world, is faced with the problem of scarce resources. No society has enough resources to satisfy everyone's wants and desires. One of the most important resources is money. The scarcity of money creates the need for allocation decisions and attempts to maximize satisfaction while minimizing one's resource expenditures. Achieving a pattern of consumer spending that provides maximum satisfaction depends on money management practices. Appropriate money management procedures can become powerful and effective tools in helping individuals and families achieve the things they really want and in freeing them from daily worries and problems of mismanaged money. Money management is a system of planning and implementing based on expected income. The tool for money management is called a budget and the process is called budgeting. A budget is a plan for allocation of available resources among various needs and wants. Budgeting entails the monitoring and controlling of expenditures in order to achieve goals set in financial planning [1, 3, 9, 12].

Money management is central to successful marital relationships. Unfortunately, according to a nationwide survey of American families conducted by Yankelovich [19], about 54 percent of these families would be classified as those who argue a lot about money. Yankelovich stated that families quarrel most frequently about overspending, poor money management techniques and the inability to keep track of where the money goes.

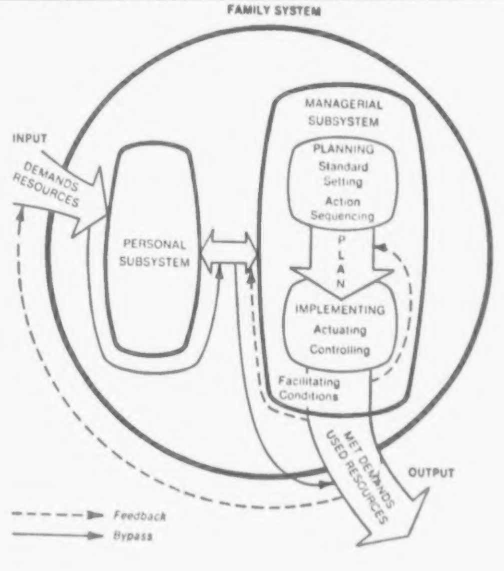
Young married students typically have limited financial resources and low levels of income. Even under these limiting conditions, however, sound financial management techniques can serve as effective tools in helping married students optimize their financial goals and the standard of living they desire to achieve. The purpose of this study is to determine what factors contribute to satisfaction/dissatisfaction with financial management techniques among married students.

CONCEPTUAL FRAMEWORK

Deacon and Firebaugh [5] developed a systems framework for home management to provide a conceptual tool for understanding the interactions between the personal and the managerial subsystems of the family. The personal subsystem deals with interpersonal relations and personal development of the family members.

Figure 1 [5,p.31] shows that the major components of the managerial system are "inputs," "throughputs," and "outputs." Managerial inputs include demands (goal and events) and resources. Goals are value-based objectives that give direction and orientation to managerial actions; values are meanings related to what is desirable and has worth to family members [5, p.29]. Events are described as unanticipated or low-probability occurrences that require action [5, p. 228]. Finally, resources are means for meeting family demands and may be either material as money and durable goods or human as knowledge and abilities of family members.

FIGURE 1. Family System with Managerial Subsystem Emphasis.



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Managerial throughputs consist of planning and implementing. Planning is defined as a series of decisions concerning standards and/or sequences of action [5, p. 225]. Standard setting is the goal clarification and resource assessment needed to specify the quality and/or quantity of what family members desire in attempting to reconcile resources with demands [5, p. 33]. Sequencing refers to ordering activities or tasks; it is the order in which activities will be completed. Implementing is defined as actuating standards and sequences and controlling the actions [5, p. 35]. Actuating means putting the plan into action. Controlling is the checking of actions and outcomes for conformity to plans and, if necessary adjusting standards or sequences [5. p. 227].

Outputs of the managerial system are referred to as met demands and used resources which result from transformation in the managerial system in response to demands and resource inputs [5, p. 35]. Met demands are the output from managerial action initiated by goals and events. It is the satisfaction and meaning gained from accomplishing goal and event demands. Used resources component of output is the change in the stock of available means. Resources may be reduced, exchanged, or increased, depending upon the managerial philosophy of the family members. Feedback about the results of the managerial system re-enters the system as inputs and may lead to changed in throughput and/or output [5, p. 228].

In the present study, the income and savings assets of married students are considered as inputs. Budgeting, record keeping, debt-to-income ratio and bill payment problems are considered as throughputs. Financial preparedness for emergencies, achievement of financial goals, attainment of the desired standard of living and satisfaction/dissatisfaction with financial management are considered as outputs.

PREVIOUS RESEARCH

Little if any research has been conducted on satisfaction/dissatisfaction with financial management to our knowledge. Previous studies of financial management have been concerned with such factors as income, role of the family financial officer, debt problems, net worth and money management practices, but none about the satisfaction/dissatisfaction of married partners with the money management practices themselves.

For instance, a number of researchers have reported on the influence of income on financial management. Gross and Zwemer [7] indicated that high-income families made more written plans than middle-income families though three-fourth of the families in their sample had no definite spending plans at all. Maloch and Weaver [12] found a positive relationship between income stability and family planning behavior. They noted that a stable income allows families to make either short or long range plans while a fluctuating income lends itself much more readily to short range planning. In a study of financial problems of urban families, Williams [17] reported that families with steady income had fewer and less severe financial problems than those with fluctuating income.

Ferber and Lee [6] examined financial managerial behavior among 230 couples in Illinois. The findings of their research showed that immediately after marriage half of the couples made joint financial decisions. Yet interestingly, after one year of marriage only 37 percent of the couples made joint decisions, with the shift toward the wife becoming the family financial officer (FFO). Ferber and Lee noted that when the husband was the FFO, the couple saved a higher proportion of their income and had more savings and assets in the form of real estate and negotiable securities. Wright [18] studied debt problems of 2800 families who used the Family Counseling service in Syracuse, New York between 1972 and 1976. In contrast with the Ferber and Lee [6] findings, Wright found that a large proportion of the families with serious debt problems also had the wife as the FFO.

Leibhart, Barnett and Heck [2, 8, 11] reported on the effect of managerial behavior on financial problems of individuals and families. Leibhart [11] examined financial management practices of 60 bankrupt and 60 non-bankrupt men in Nebraska. Leibhart found that the non-bankrupt group made more complete plans and planned for longer periods of time than the bankrupt group. Barnett [2] indicated that families with low level of financial management functioning in her study had a larger debt ratio, and a longer length of debt than those with higher level of financial management functioning. Heck [8] reviewed research on consumer debt problems over the past two decades and found that households with debt problems were more likely to have high debt-to-income ratios.

Deacon and Firebaugh [4] stated that household net worth influences financial management practices of families. A low net worth would indicate few material resources, and a recognition of this may motivate families to engage in careful financial planning. However, Sahlberg [15] reported that families with high levels of net worth in her sample tended to formulate more spending plans. Sahlberg also found that the family life cycle stage had a negative relationship on the formality of spending plans, suggesting that families in older stages engage in less formal financial planning.

Mullis and Schnittgrund [14] and Schnittgrund [16] studied money management practices of 199 low-income families in Phoenix, Arizona. They found that families with spending plans were more satisfied with their financial management practices than those without spending plans. Heck [9] compared managerial behavior of 195 households and found that planners were more satisfied than non-planners with their families output level.

In summary, the review of literature indicates that though many studies have focused on the practical aspects of financial management practices, none have looked at satisfaction/dissatisfaction among individuals and families with financial management practices themselves. The present study was designed to examine such aspects of financial management as relative importance of budgeting, record keeping, financial preparedness for emergencies, debt-to-income ratio, changes in income and savings assets and bill payment problems in explaining satisfaction/dissatisfaction with financial management among married students.

METHODOLOGY

A random sample of 258 households was drawn from the 1285 student families in the Iowa State University Married Students Housing Community. An interviewer delivered a questionnaire on money management techniques to the wife of each couple in person, explained the procedure for answering it, and picked up the completed questionnaire after three days. A follow-up phone call was then made to each wife whose questionnaire was incomplete to obtain missing information. Ten percent of the households could not be reached and an additional six percent refused or failed to return the questionnaire. Of the remaining eighty-four percent, households were eliminated from the sample if the wife was a foreign student or a single parent. The final sample consisted of 184 American married student couples.

Included in the questionnaire were items which tapped the spouses' satisfaction with various aspects of their financial management schemes, their approach to budgeting and use of credit, their debt load, and their financial preparedness for emergencies. Additional questions gathered information about decision making and decision implementing patterns of the spouses. Questions about other socioeconomic and demographic characteristics of the spouses were also included.

Variables

The dependent variable of this study is satisfaction with financial management. It was obtained through the wife's response to the following question: "What is your overall satisfaction with your financial management techniques?" Response categories formed a 7 point scale which ranged from very dissatisfied, to neutral, to very satisfied.

The major independent variables in this study are financial management characteristics. On the basis of previous research 15 items were selected to represent financial management (See Table 1). Factor analysis of these items uncovered 6 factors which we identified as (1) usefulness of budgeting, (2) financial preparedness, (3) record keeping, (4) budgeting, (5) debt-to-income ratio, and (6) anticipated changes in future income. These factors and associated financial management item factor loadings are reported in Table 2

Method of Analysis

Multivariate regression was used to analyze the data. Beta coefficients were used to analyze the relative importance of each independent variable in

TABLE 1. Items Used in This Study

Item	Coding of Item
Follow a written budget	1= never 2= seldom 3= sometime 4= often 5= always
Follow a mental budget	1= never 2= seldom 3= sometime 4= often 5= always
Record keeping of all household expenditures	1= never 2= seldom 3= sometime 4= often 5= always
Record keeping of major expenditures	1= never 2= seldom 3= sometime 4= often 5= always
Record keeping of income	1= never 2= seldom 3= sometime 4= often 5= always
Record keeping of cancelled checks	1= never 2= seldom 3= sometime 4= often 5= always
Percentage of income to debts	1= less than 10% 2= 10-15% 3= 16-25% 4= 26-50% 5= 51% or more
Income adequacy	1= not adequate 2= can meet necessities 3= can afford some things 4= can afford everything 5= can afford everything and save
Changes in future income	1= lower than this year 2= the same as this year 3= higher than this year 4= much higher than this year
Changes in savings assets	1= lower than last year 2= the same as last year 3= more than last year 4= much more than last year
Bill payment problems	1= got behind 2= got behind, & made larger payments 3= made larger & more frequent payments 4= payments were made on time

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[1] Although items were grouped only with the factors on which they had the highest loadings, two of the fifteen items had factor loadings of .40 or greater on a second factor as well. The "follow a written budget" item also loaded .50 on Factor 1 (usefulness of budgeting), and the "anticipated changes in future income" item also loaded .42 on Factor 4 (budgeting practices).

TABLE 1 continued

Item	Coding of Item
Preparedness for small emergencies	1= very unprepared 2= unprepared 3= somewhat prepared 4= prepared 5= very prepared
Preparedness for large emergencies	1= very unprepared 2= unprepared 3= somewhat prepared 4= prepared 5= very prepared
Budget helped achieve goals	1= did not help 2= helped a little 3= helped somewhat 4= helped a lot
Budget helped attain standard of living	1= did not help 2= helped a little 3= helped somewhat 4= helped a lot

the regression procedures. Items in a preliminary factor analysis that significantly contributed to regression equationa at or beyond the .10 level of statistical significance (i.e., had a t-statistic equal or greater than 1.64) were included in the final comprehensive regression analysis. The coefficient of multiple determination (R^2) was used to assess the proportion of variance in the dependent variable explained by the independent variables (See Table 3).

TABLE 2. Factors Derived from the Independent Variables

Factor Items	Factor Loadings
Factor 1: Usefullness of Budgeting	
Budget helped achieved goals	.89
Budget helped attain standard of living	.87
Factor 2: Financial Preparedness	
Financial preparedness for small emergencies	.78
Financial preparedness for large emergencies	.78
Income adequacy	.71
Changes in savings assets	.47
Factor 3: Record Keeping	
Record keeping of all household expenditures	.67
Record keeping of major expenditures	.78
Record keeping of income	.54
Record keeping of cancelled checks	.51
Factor 4: Budgeting	
Follow a written budget	.54
Follow a mental budget	.84
Factor 5: Debt-to-Income Ratio	
Percentage of debt to income	.78
Factor 6: Changes in Future Income	
Changes in future income	.52
Bill payment problems	.78

TABLE 3. Final Regression of Satisfaction/Dissatisfaction with Financial Management Among Married Students.

Statement	Beta Value	t value	p value
Factor 1: Usefulness of Budgeting			
Budget helped achieve goals	.17	1.78	.08*
budget helped attain standard of living	.17	1.73	.09*
Factor 2: Financial Preparedness			
Financial preparedness for small emergencies	.26	3.17	.002**
Income adequacy	.12	1.54	.13
Factor 3: Record Keeping			
Record keeping of all household expenditures	-.01	.15	.88
Record keeping of cancelled checks	.13	1.79	.08*
Factor 4: Budgeting			
Follow a written budget	.06	.69	.49
Follow a mental budget	.03	.45	.65
Factor 5: Debt-To-Income Ratio			
Percentage of debt-to-income	-.10	1.35	.18
Factor 6: Changes in Future Income			
Bill payment problems	-.01	.17	.87
R^2	.31**		

*Significance at the .10 level
**Significant at the .05 level

RESULTS AND DISCUSSIONS

Preliminary Factor Regression

Usefulness of budgeting. The usefulness of budgeting variables (Factor 1) reflects the use of budgeting to achieve the family financial goals and to attain the desired standard of living. Both usefulness of budgeting variables were significant at the .05 level in the preliminary regression and were included in the final regression.

Financial preparedness. The financial preparedness variables reflect the degree of financial preparedness of the families for small and large emergencies, income adequacy and changes in savings assets (Factor 2). Two variables, financial preparedness for small emergencies and income adequacy, met the criteria of statistical significance for inclusion in the final regression model. Financial preparedness for small emergencies was significant at the .01 level in the preliminary regression.

Record keeping. The record keeping variables included record keeping of all household expenditures, of major expenditures, of income and of cancelled checks (Factor 3). Record keeping of all household expenditures and record keeping of cancelled checks met the criteria for inclusion in the final regression model. Both variables were significant at the .05 level in the preliminary regression.

Budgeting. The two budgeting variables included in the preliminary regression reflected the use of a written or a mental budget by the families (Factor 4). Both variables had t statistics of more than 1.64 in the preliminary regression and were included in the final regression. The use of a written budget was significant at the .01 level in the preliminary regression.

Debt-to-income ratio. The debt-to-income ratio was the only variable which was included in the preliminary regression analysis (Factor 5). Because of a t statistic of more than 1.64 in the preliminary regression it was also included in the final regression.

Anticipated future income. The two variables included in the preliminary regression were changes in future income and bill payment problems (Factor 6). Bill payment problems met the criteria for inclusion in the final regression and was significant at the .05 level in the preliminary regression.

Combined Factors Regression Analysis

The results of the regression analysis of the combined factors are shown in Table 3. The coefficient of multiple determination (R^2) for the sample of married students was .31, a finding significant beyong the .01 level. As a group these items indicate that the financial management factors explain 31 percent of the variance in satisfaction/dissatisfaction with financial management practices.

With respect to the individual items, financial preparedness for small emergencies accounted for more of the differences in satisfaction/dissatisfaction with financial management than any of the other items. The beta for this item, .26, was significant beyond the .002 level. This finding suggests that the most important component of satisfaction/dissatisfaction with financial management for this sample of married students is the perception that the family is financially ready to meet small unexpected emergencies.

Several other items had betas that approached statistical significance near the .05 level. Betas for both items of the usefulness of budgeting factor were quite similar, .17 for the budget helped achieve family goals item ($p<.08$) and approximately .17 for the budget helped attain the desired standard of living ($p<.09$). These findings suggest that organized approaches to financial management may contribute more to overall satisfaction/dissatisfaction with financial management practices than less systematic or haphazard methods.

Interestingly, the record keeping of cancelled checks item (Factor 3) also approached the .05 level of significance. Beta for this item was .13 ($p<.08$). This finding may indicate that knowing where money was spent and being able to retrieve this information if required (i.e., for income tax purposes, etc.) may provide a more secure base for financial management, reducing uncertainty of concern, and thus increasing levels of satisfaction with financial management overall.

Two other items made marginal contributions to the overall regression, income adequacy and percentage of debt to income. These items had betas of .12 ($p<.13$) and -.10 ($p<.18$) respectively. It is surprising that income adequacy is not one of the primary items contributing to the comprehensive regression equation, but apparently level of income is less important than having sufficient funds on hand to deal with small emergencies or having a record of checks spent. The debt-to-income ratio also was less important for satisfaction/dissatisfaction with financial management than expected, though it nevertheless made a small contribution.

Variables that were not significant in the final regression and thus, contributing least to satisfaction/dissatisfaction with financial management, were follow a written budget (beta = .06, $p<.49$), record keeping of all household expenditures (beta = -.01, $p<.88$), and bill payment problems (beta = -.01, $p<.87$). These findings indicate that method of budgeting may be less important to overall satisfaction/dissatisfaction than perceived usefulness of budgeting whatever the approach. Also, keeping a record of every household expenditure may be more difficult and cumbersome than merely keeping tracks of checks, while at the same time not providing that much more of an advantage in financial management. It is interesting that bill payment problems are not perceived as components of satisfaction/dissatisfaction. Perhaps this is true just for this married student sample, which are typified by greatly reduced or "shoe-string" budgets. After graduation, when large ticket items such as appliances and furniture are purchased, or when student loan payments begin and possibly housing and car payments as well, it may be that bill payment patterns may become much more central to the issue of financial management.

In general, these findings from the combined factors regression analysis are consistent with those in other studies, where available. For instance, Sahlberg [15] reported that families with higher levels of net worth tended to formulate more spending plans. Net worth could be considered as an output or an outcome of the family managerial system. According to Sahlberg [15], a positive net worth (output) motivated the families in her study to engage in more planning of the family financial resources. The achievement of family financial goals and financial preparedness for small emergencies of the families in this study could also be considered as an output of the family managerial system. It is more likely that the families in this present study will continue financial management practices that bring them satisfaction into the future to attain the financial goals they establish.

Mullis and Schnittgrund [14], Heck [9], and Schnittgrund [16] have reported that families with spending plans were more satisfied with their financial management practices than those without spending plans. The families in the present study who were financially prepared for small emergencies and who attained their financial goals through the use of a budget (which is a plan for allocating family resources) were also those most satisfied with their financial management practices.

In conclusion, the purpose of financial management is to get the greatest satisfaction for the resources at hand. Included in such satisfaction is the achievement of the family financial goals. Deacon and Firebaugh's [5] management model could be used for assessing the effectiveness of family financial management. Goals and resources are inputs to the management system. The throughput function of the management system is to plan and implement actions to achieve family financial goals with the available resources. The results of the managerial activity is represented by the outputs of achieved goals and used resources. Financial preparedness to meet small emergencies and record keeping practices of the families in this study indicate that through the managerial process a level of satisfaction has been achieved. This satisfaction with financial management outcome (output) may be identified as an accomplishment of these families as a result of their financial behavior, or in other words, an expression of their satisfaction with their financial management techniques.

SUMMARY

This study was concerned with satisfaction/dissatisfaction with financial management among married students living at Iowa State University Housing Community. Satisfaction/dissatisfaction with financial management included the wife's response to the question: What is your overall satisfaction with your financial management techniques? The response categories consisted of "Very Dissatisfied," "Dissatisfied," "Somewhat Dissatisfied," "Neutral," "Somewhat Satisfied," "Satisfied," and "Very Satisfied."

Financial preparedness for small emergencies was the most important variable contributing to satisfaction with financial management in the final regression model, followed by keeping a record of cancelled checks and perceived usefulness of budget items in achieving family goals and attaining the desired standard of living. The financial management items collectively explained 31 percent of the variance in the dependent variable, satisfaction/dissatisfaction with financial management.

The findings of this study indicate that families may follow the Deacon and Firebaugh managerial system model as they evaluate the effectiveness of their managerial behavior. This is accomplished by comparing the actual outputs of the family system with the anticipated outcomes in meeting family demands and is indicated by the degree of satisfaction with the family management procedures. The more consistent the actual outputs with what was anticipated, the more effective the management system is. It might be anticipated that the greater the effectiveness of the management system, the greater the level of satisfaction with the system. Therefore, it will be important to examine in future research not just factors contributing to satisfaction with financial management among married students, but factors among other type families. In so doing, a picture of the continuities and changes in family management patterns can be identified across the life-span.

REFERENCES

1. Bailard, T., D. Biehl, and R. Kaiser. Personal Money Management. Chicago: Science Research Associates, 1983.

2. Barnett, M. S. Levels of Family Financial Management Function. Unpublished Master's Thesis, Pennsylvania State University, 1974.

3. Boone, L., and D. Kurtz. Contemporary Personal Finance. New York: Random House Business Division, 1985.

4. Deacon, R., and F. Firebaugh. Home Management Context and Concepts. Boston: Houghton, Mifflin Company, 1975.

5. Deacon, R., and F. Firebaugh. Family Resource Management. Boston: Allyn and Bacon, Inc., 1981.

6. Ferber, R., and L. Chao. "Husband-Wife Influences in Family Purchasing Behavior," The Journal of Consumer Research, 1, (June 1974), 43-50.

7. Gross, I. H. and E. A. Zwemer. Management in Michigan Homes. Technical Bulletin 196, Michigan: Agricultural Experimental Station, 1944.

8. Heck, R., "Identifying Insolvent Households," Journal of Home Economics 72 (Winter, 1980), pp. 14-17.

9. Heck, R., "A Preliminary Test of a Family Management Research Model," Journal of Consumer Studies and Home Economics. 7 (June 1983) pp. 117-135.

10. Leet, D. R., and J. Driggers. Economics Decisions for Consumers. Belmont: Wadworth Publishing Company, 1983).

11. Leibhart, M. L. Goal Commitment and Financial Management of 60 Bankrupt and 60 Non-Bankrupt Men in Lincoln and Omaha, Nebraska. Unpublished Master's Thesis, The University of Nebraska, Lincoln, 1974.

12. Maloch, F., and C. R. Weaver. "Orientation of Expenditures to Day of Pay." Journal of Consumer Affairs 2 (1969), pp. 137-144.

13. Miller, K. L. Economics Issues for Consumers. Saint Paul: West Publishing Company, 1981.

14. Mullis, R., and K. Schnittgrund. "Budget Behavior: Variance Over the Life Cycle of Low Income Families." Journal of Consumer Studies and Home Economics. 6 (June 1982), pp. 113-120.

15. Sahlberg, K. A Managerial System Approach to Factors Influencing Family Financial Planning.

15. continued
Unpublished Master's Thesis, Iowa State University, Ames, 1977.

16. Schnittgrund, K. and C. Baker. "Financial Management of Low-Income Urban Families." Journal of Consumer Studies and Home Economics. 7 (September 1983), pp. 261-270.

17. Williams, F. "Intensity of Family Disagreement Over Finances and Associated Factors." Journal of Consumer Studies and Home Economics. 8 (March 1984), pp. 33-53.

18. Wright, L. "Families in Debt." Journal of Home Economics. 70 (January 1978), pp. 38-39

19. Yankelovich, Shelly, et al. The General Mills American Family Report. General Mills, Minneapolis, MN 1975.

WORK AFTER RETIREMENT: INTENTIONS OF PERSONS ELIGIBLE FOR AN EARLY RETIREMENT INCENTIVE

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ABSTRACT

Between 16 and 33 percent of respondents in this study expected to work after retiring from their current job. Age, life expectancy, perceived retirement income adequacy, marital status, health, sex, area of residence and education were found to be determinants of intentions to work after retirement, as measured by number of hours of work per week or number of weeks per year respondents desired.

As a response to the economic climate in the early 1980s many private and public employers offered selected groups of employees special incentives for early retirement. This helped the employers pare down payrolls and prevented the layoff or firing of younger workers. However, at the same time, Congress was preparing legislation to increase the age of "full benefit" retirement for Social Security purposes from age 65 to 67. These two countervailing forces--employer incentives for early retirement and public policy incentives for postponing retirement--create a difficult environment for household decision making related to labor force activity and retirement.

Data from such surveys as the Survey of Consumer Finances, the Longitudinal Retirement History Study, and New Beneficiary surveys of the Social Security Administration provide information on the level of assets and income resources households have in retirement [2, 3, 19, 20]. However, even moderate levels of inflation coupled with the fixed income nature of most pensions can erode asset values. And the continued decline in labor force participation rates for men over age 55 combined with increasing longevity trends implies that these households are facing longer periods of retirement over which they must stretch their assets. Working for pay during retirement provides one way to supplement retirement benefits and keep up with the effects of inflation.

Much of the research on retirement has focused on the timing of retirement. There is a large body of literature on the subject, of which Barfield and Morgan (1969), Parnes et. al. (1979), and Fields and Mitchell (1984) are representative. Some attention has been paid to the phenomena of partial retirement and "post-retirement" work; that is, continuing to work after retiring from a main job (usually defined as the job held at age 55) [1, 5, 9, 10, 21]. This research made use of longitudinal surveys to track persons prior to and during retirement.

However, changes in the public's awareness of interest and inflation rates, of the solvency of Social Security trust funds, and of new financial products and services may mean that the cohort of persons currently aged 55 and over differ somewhat from those aged 55 and over in the late 1960s when most of the longitudinal studies began. Thus it may be helpful for policy makers, consumer educators, and other financial and personnel professionals to consider the retirement expectations and intentions to continue working of persons still in the labor force.

The research questions addressed in this paper are: Do persons offered an early retirement incentive expect to continue working after receiving retirement benefits? If so, what level of labor force participation do they desire? What factors affect their intention to continue work?

PREVIOUS STUDIES

"Retirement" is a common concept, but it is difficult to measure. Various researchers have used receipt of pension or Social Security benefits, level of labor force activity (e.g. under 1000 hours per year), and self-definitions to determine if a respondent is retired. Each of these pose problems when interpreting results, since each creates it's own bias. Similarly, when studying post-retirement work, one must be careful so as not to confound retired workers with older persons continuing to work.

Wentworth (1968) examined data from Social Security recipients from a number of regional and national studies ranging from 1941 to 1963. Employment rates among retirement beneficiaries ranged from 15.7 percent in 1941-42 (in a Philadelphia-Baltimore study) to 40.7 percent (1944 in Ohio). She found that retirees returned to work primarily because of need for income, that employment decreased with age, that health status affected employment, and that the unemployment rate and postretirement employment rates were negatively correlated.

Fillenbaum (1971) used multidiscriminant analysis to analyze the ways in which working retirees differed from their nonworking counterparts in the Piedmont region. Between 31 and 41 percent of white males interviewed had returned to work after retirement. She found workers to have more schooling, to be healthier, to have less financial need to work, to have more memberships in associations, to have been more "successful" in their work, and to receive a sense of recognition from work. In a similar study on university faculty, she found workers to be healthier, to be facing greater financial pressures (e.g. a larger family size or a large proportional drop in income at retirement) and to be less accepting of retirement

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[8]. She also found that faculty in the sciences (biology, chemistry, engineering) were more likely than their social science or humanities colleagues to work after retirement.

In a descriptive study of post-retirement work based on National Longitudinal Survey data, Parnes et al (1979) found that 80 to 82 percent of the retirees (identified by self-report) were not in the labor force; approximately 5 percent had worked year round the previous year and 10 percent had worked at least 6 months.

Analysis of data from the Social Security Administration's Retirement History Study revealed that of those who retired from 1970 to 1972, only 6 percent returned to work, implying a high degree of stability in the retirement decision. Grad (1978) found that of those returning to work, 50 percent did so within 3 months of retirement and 80 percent returned within one year.

A second study using the Retirement History data focused on the availability of retirees for work. Those who indicated they were not available for work out numbered those who were, providing further evidence of the stability of the retirement decision. Those who retired at age 62 were no more likely to be available for work than those who retired at 65. Of the retirees who stated they were available, greater proportions of those who retired from blue collar jobs, who had less than high school educations, and who had lower pre-retirement incomes were available for work [16].

Studies done by Social Security Administration staff on retirees indicate that on the average, 23 percent of households with at least one person over 65 have income from earnings [20]. However, percentages range from 6 percent of those households reporting incomes under $5000 in 1980 to 58 percent of households reporting incomes over $20,000. In a recent survey of new Social Security beneficiaries, 43 percent of couples and 27 percent of unmarried individuals reported income from earnings [15]. Again, percentages varied by income, with households at the lower end of the distribution reporting a lower percentage of income from earnings.

Using the Longitudinal Retirement History Study, Gustman and Steinmeier (1984) determined that partial retirement (defined as working after age 55 in some job other than the main job held at age 55) is an important phenomenon which may be confounding the results of many of the retirement studies which focus on the timing of the retirement decision. Due to labor market constraints (e.g. the ability to cut back hours of work as one approaches retirement), they hypothesized that persons would leave their main job and partially retire for a short period of time (one to two years) before becoming fully retired. They found that, depending on age, 23 to 38 percent of persons aged 64 or over were partially retired at some point during the survey years. The determinants of partial retirement included pension coverage, mandatory retirement provisions, wage offers in main and partial retirement jobs, health, marital status, presence of dependent children, parental support (i.e. elderly parents requiring financial support), and age.

Anderson, Burkhauser, and Butler (1984) used the same data set to study reentry into the labor market after retirement. Their results indicate that changes in flows of income from Social Security, pensions, or SSI affected labor market reentry. They concluded that changes designed to affect the retirement timing decisions of workers (e.g. levels of retirement benefits) may also affect the labor market activity of those already retired.

Beck (1985) used the National Longitudinal Survey's Older Male Cohort to study the determinants of labor force activity among retired men. He focused primarily on occupational groups and their propensity to work after retirement, although he concluded that any differences could be explained by other factors related to occupation (e.g. commitment to work, intrinsic satisfaction of job). Other significant factors were health and level of retirement benefits.

Another study using NLS data indicates that Social Security benefits, pension benefits, other household income, level of education, health status, and size of the area labor force are significant determinants of post-retirement work [13]. This study also found that the post-retirement work behaviors of men who held low income jobs prior to retirement differed significantly from the behaviors of men not in low income jobs.

It is important to note that most of these studies were conducted on primarily male samples. Little is known about the retirement decisions of women, including their inclinations for partial retirement or post-retirement work. Also, as was indicated earlier, the current cohort of persons age 55 and over may behave quite differently than earlier cohorts. Finally, it would be helpful to know the intentions of persons with regard to their preferred combination of work and retirement, although it is recognized that intentions and actual behaviors may not necessarily correlate.

LABOR SUPPLY DECISIONS

Labor supply theory predicts the effect of the availability of retirement benefits on labor supply. Households supply labor based on the level of goods they want to consume, the amount of leisure they desire, and the wage rate they can receive. When nonemployment income such as Social Security and pension benefits become available, household labor supply may be reduced because individuals can maintain their desired level of consumption and increase leisure while working less. What, then, does theory indicate with regard to re-entry into the labor market after retirement?

Life cycle labor supply theorists suggest that persons optimize their labor efforts across their lifetimes [12]. That is, people plan their level of work, savings and consumption so that a steady level of consumption can be maintained across their lifetimes. People save during prime income producing years and dissave during retirement, attempting to keep consumption constant. Thus, re-entry into the labor market after retirement would be an anomaly unless people are faced with high inflation and fixed incomes. A major weakness of this approach is that, in application, people may not have realistic expectations regarding health and longevity or adequate information on future income and prices to make a decision which optimizes over their lifetime. Uncertainty is likely to force persons, especially older workers, into making a series of short run decisions regarding work and retirement which may or may not be "optimal" in the long run.

Theory does indicate that a major motivating force behind entry into the labor market is a disequilibrium between the home wage rate (the "price" of leisure) and the market wage. The home wage rate is reflected in the level of satisfaction (or utility) of a household. Over time, prices of a fixed desired bundle of goods may rise. Because some retirement benefits are fixed (e.g., pension benefits) and others increase only gradually (e.g., Social Security cost of living increases are lagged one year), households who desire to maintain a constant level of satisfaction must trade off leisure for market work to maintain that level of satisfaction.

Therefore, the arguments in the utility function (desired levels of consumption and leisure) and the budget constraint (prices of goods and income) can act as predictors of re-entry into the labor market and level of post-retirement work. The budget constraint is influenced by financial resources (including expected retirement income) and the ability to work to earn additional income. The utility function reflects the perceived adequacy of these resources.

DATA, MODEL, AND ANALYSIS

Data for this study were drawn from a population of New York State employees offered a 3 year service credit early retirement incentive. To be eligible for the incentive, persons had to be 55 or over with at least 10 years of service in the New York State Employees Retirement System, had to apply for retirement between March and May of 1983, and had to retire by June 1, 1983. Approximately 26,000 employees were eligible for the incentive and 8,000 accepted.

In order to assure a sample size suitable for studying variables of interest and for model development, a sample of 4,000 of the 26,000 "incentive-eligible" persons were surveyed in September, 1983. The sample consisted of 1500 acceptor/retirees and 2500 persons who were eligible for the incentive but did not accept. Sampling was done on the basis on the workers' NYSERS membership number. Of the 4000, 1707 responded, with 1627 providing sufficient information to be usable. (A full description of the sampling methodology and comparison of the sample to the population can be found in [14]).

It is important to note that acceptance of an early retirement incentive does not necessarily mean that a person has "retired." Many people accepted the incentive and continued to work at a similar job in the private sector while receiving retirement benefits from the state.

It is expected that intentions to work after "retirement" are a function of expected financial resources at retirement, the perceived adequacy of those resources, and ability to work. That is:

$$W = f(Y_i, P_i, A_i), \qquad (1)$$

where

W = measure of intention to work after retirement
Y_i = vector of variables measuring financial resources
P_i = vector of variables measuring perceived adequacy of the financial resources
A_i = vector of variables measuring ability to work after retirement.

In this study, intention to work after retirement has been assessed in two ways. Respondents were asked if they expected to work after retiring from their New York State job. Those who answered "yes, definitely" or "yes, probably" were sent on to other questions asking them how many hours per week they would like to work and how many weeks per year they would like to work.[2] These measures of desired hours per week and desired weeks per year were used as dependent variables.

Measures of financial resources in retirement included the estimated present value of the expected pension benefit[3], age (as a proxy for Social Security benefits) and housing (1=owner).

Perceived adequacy of retirement income was measured by marital status (1=married), anticipated life expectancy (1=average or longer), and anticipated adequacy of retirement income (1=adequate). The life expectancy question presented the average life expectancies for males and females age 55 to 65. Respondents were asked if they expected to live about this long, longer, or not as long as the average. Average or longer than average life expectancies were re-coded as 1, with less than average life expectancies coded as 0. Regarding retirement income adequacy, respondents were asked how adequate they thought their retirement incomes would be, with four choices ranging from "more than adequate" to "not at all adequate". The four categories were collapsed into two, with the two positive responses coded 1 and the two negative responses coded 0.

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[2] Respondents were given four responses: yes, definitely; yes, probably; maybe; and no. In this study we used the first two and did not include those who responded "maybe" in our analysis. Thus, our estimates are on the conservative side and may understate the level of intended post-retirement work.

Ability to work after retirement was measured by health (subjective and objective measures), education (number of years of school completed), living in an urban area (1=urban or suburban), sex (1=female), and race (1=white). Health was measured subjectively by the respondents' self assessment of their health relative to others their age (1=excellent or good). The objective measure of health was the number of days out of work in the last year due to illness.

It was expected that a large proportion of the respondents would not want to work after retirement. Thus, it was likely that the dependent variables (hours and weeks of work desired) would have a large number of cases with 0's and then a distribution of other cases ranging up to 40 hours per week and up to 52 weeks per year. Tobit analysis is a maximum likelihood technique especially suited for such data. The tobit model was estimated using SHAZAM, a statistical package available for mainframe and microcomputers.

RESULTS

Means and proportions of the variables studied are reported in Table 1, and the Tobit coefficients for both the hours and weeks models are presented in Table 2.

For the expected number of hours, the probability of a non-zero dependent variable was .16, and the expected number of hours of work (evaluated at the means) was 3.34. None of the financial resource measures were significant determinants of post-retirement work intentions. However, all measures of perceived adequacy (marital status, life expectancy, and anticipated adequacy of retirement income) were significant at .90 or better. Among measures of ability to work, living in an urban area and level of education were significant.

TABLE 1

Means and Proportions

Hours of work desired	3.74
Weeks of work desired	11.81
Present value of expected pension benefits	21576
Age	60.34
Housing (1 = owner)	.79
Life expectancy (1 = average or longer)	.76
Retirement income adequacy (1 = adequate)	.67
Marital status (1 = married)	.69
Health status (1 = excellent, good)	.80
Days out due to illness	9.37
Race (1 = white)	.87
Sex (1 = female)	.41
Area of residence (1 = urban)	.57
Education	11.82

These variables operate in the expected direction, with married persons and persons who expect adequate retirement incomes having reduced hours of work desired. An average or longer life expectancy, higher levels of education, and being in an urban setting increased the hours of work desired.

Marginal effects of the variables are presented in Table 3. While these are statistically significant, the effects are small in magnitude. Being married reduced the hours of work desired by .05 per week. Perceiving oneself as having adequate retirement income also reduced the hours of work desired by .03. Anticipating an average or longer life expectancy increased the hours of work desired by .03. Being in an urban area increased the hours of work desired by .02. Having an additional year of education increased hours desired by a small (.0006) but statistically significant amount.

For the number of weeks of work desired, the probability of a non-zero response was .33, and the expected number of weeks (evaluated at the means) was 9.8. In this model, age, marital status, income adequacy, health, education, and sex were significant determinants of the desired number of weeks of work. Again, these operated in the expected directions, with health and education having positive signs and the others having negative signs.

The marginal effects of the variables, while significant, were small. Being in good health increased the number of weeks of work desired by .08, and an additional year of education increased the weeks desired by .001. The largest marginal effects are for sex and perceived income adequacy. Being female reduced the weeks desired by .16 and anticipating adequate income reduced the weeks

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[3] Respondents were asked for a wide range of financial information, including income in 1982, expected income in 1983 from earnings, pensions, assets, etc. Although respondents were assured anonymity, between two-thirds and three-quarters of the respondents supplied full financial information. Because of this rather large response problem, the Heckman procedure was used to estimate 1982 income from earnings. In this case, civil service grade, age, age squared, and education were regressed on income. The Heckman procedure then generates a parameter, lambda, which is used in estimating 1982 income.

Using the estimated 1982 income and respondents information on actual or expected dates of retirement, we were able to project earnings to retirement (using a 5 percent per year "raise factor"). Then the pension fund formula for calculating benefits was used to estimate pension benefits at retirement. These were projected based on the respondents' answers to a life expectancy question, and then discounted back to their present values using a 2 percent discount rate.

desired by .13. Being married reduced weeks desired by .09 and being one year older reduced weeks desired by .009.

TABLE 2

Tobit Coefficients (t-values in parens)

Variable	Hours Model	Weeks Model
Present value of pension	.0000006	.0000004
	(.452)	(.343)
Age	-.0024	-.0294
	(.175)	(2.405)
Housing	.0021	-.0799
	(.017)	(.761)
Life expectancy	.2225	.0308
	(1.752)	(.286)
Retirement Income adequacy	-.2164	-.4026
	(2.101)	(4.599)
Marital status	-.2974	-.3010
	(2.623)	(2.983)
Health status	.0025	.2550
	(.019)	(2.302)
Days out	-.0014	.0011
	(.616)	(.606)
Race	.0513	-.0567
	(.355)	(.486)
Sex	-.0253	-.4957
	(.232)	(5.065)
Area of residence	.1468	.0901
	(1.452)	(1.054)
Education	.0039	.0035
	(1.439)	(1.437)
Constant	-.7991	1.796
Log likelihood	-1054.04	-1852.92
N	944	930
Probability of a non-zero W*	.169	.331
Expected value of W* (at means)	3.348	9.864

*where W = hours of work or weeks of work desired

TABLE 3

Marginal Effects of Variables[4]

Variable	Hours Model	Weeks Model
Present value of pension	.0000001	.0000001
Age	-.0004	-.0097*
Housing	.0003	-.0264
Life expectancy	.0375*	.0101
Retirement income adequacy	-.0365*	-.1332*
Marital status	-.0502*	-.0996*
Health status	.0004	.0844*
Days out	-.0002	.0003
Race	.0086	-.0187
Sex	-.0042	-.1640*
Area of residence	.0247*	.0298
Education	.0006*	.0011*

*Significant at .90 or better

DISCUSSION

The negative sign on the sex variable in both models may seem somewhat inconsistent with expected behaviors. Because female earnings are usually lower than those of males and because their retirement benefits are likely to be lower, it could be reasoned that they should be anticipating lower levels of retirement benefits and thus have a higher need or expectation to work after retirement. However, it is likely that among this cohort, labor force attachment is not so great that it outweighs spending one's retirement years together with one's spouse if it is at all affordable.

These results indicate that the perceived adequacy of one's retirement income is a major factor in any intentions to continue working after retirement. It follows, therefore, that people need information on retirement benefits in order to ascertain the adequacy of these benefits and make appropriate plans for retirement. Social Security and most pension plans offer estimates of benefits prior to retirement. However, it is not always clear how easily available these estimates are. And often there are limits as to how far into the future plans will project, making long range planning difficult for households. Educated consumers may begin to ask for early estimates, thus creating a demand for this information. Alternatively, future revisions of ERISA or other retirement-related legislation could make provisions for retirement benefits estimates (e.g., require pension funds to provide all workers 50 and over estimates of their pension benefits on an annual basis).

Another factor that is raised in discussions of post-retirement work is the availability of appropriate jobs for older workers. While this study did not address this issue directly, it is evident that as education increases, so does the level of post-retirement work. Finding an appropriate job may mean having the appropriate skills, many of which could be obtained through re-training or additional coursework at vocational schools or community colleges. Consumer educators and personnel professionals need to help people identify the alternatives in their communities and acquire appropriate training for their retirement careers.

It is important to remember that the intentions of persons may not match their behaviors in later years. And it is also important to note that many of the persons in this study were able to "retire" from their state jobs at age 55 and continue to work full time in a related job in the private sector.

Nonetheless, these results support the findings of other studies with regard to post-retirement work. Between 16 and 33 percent of the sample expect to work after they have retired from their New York State job. However, the anticipated levels of work

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[4] Estimated number of hours or weeks desired = E(W)

$$\frac{\partial E(W)}{\partial X_i} = p \cdot \beta_i$$

where X_i is the independent variable, P is the probability of a non-zero response, β_i is the estimated coefficient are rather low, averaging about 32 hours per year (3.3 hours per week for 9.8 weeks). Major factors affecting this decision include financial resources, perceived adequacy of retirement income, and ability to work. Specifically, age, marital status, perceived income adequacy, life expectancy, education, health, sex, and area of residence appear to be significant determinants of intentions to work after retirement. Consumer educators and policy makers can help households plan and prepare for their retirement by facilitating access to information and providing opportunities for training and education.

REFERENCES

1. Anderson, K.H., Burkhauser, R.V., and Butler, J.S. Work after retirement: A hazard model of labor market reentry. Institute for Research on Poverty Discussion Paper No. 786-84, 1984.

2. Avery, R.B., Elliehausen, G. E., and Canner, G. B. Survey of consumer finances, 1983. Federal Reserve Bulletin, Sept. 1983, 679-692.

3. Avery, R.B., Elliehausen, G. E., and Canner, G.B. Survey of consumer finances, 1983: A second report. Federal Reserve Bulletin, December, 1984, 857-868.

4. Barfield, R. and Morgan, J. Early retirement: The decision and the experience. Ann Arbor; Institute for Social Research, 1969.

5. Beck, S. H. Determinants of labor force activity among retired men. Research on Aging, 7 (2), 1985, 251-280.

6. Fields, G. S. and Mitchell, O.S. Retirement, pensions, and Social Security. Cambridge: The MIT Press, 1984.

7. Fillenbaum, G. C. The working retired. Journal of Gerontology, 26(1), 1971, 82-89.

8. Fillenbaum, G. C. and Maddox, G. L. Work after retirement: An investigation into some psychologically relevant variables. The Gerontologist, 14 (5), 1974, 418-424.

9. Grad, S. New retirees and the stability of the retirement decisions. Social Security Bulletin. 41 (5), 1978, 18-29.

10. Gustman, A.L. and Steinmeier, T.L. Partial retirement and the analysis of retirement behavior. Industrial and Labor Relations Review, 37 (3), 1984, 403-415.

11. Gustman, A.L. and Steinmeier, T.L. Modeling the retirement process for policy evaluation and research. Monthly Labor Review, 107 (7), 1984, 26-33.

12. Hammermesh, D. S. Life cycle effects on consumption and retirement. National Bureau of Economic Research Working Paper Series, No. 976; Cambridge, Mass., 1982.

13. Hogarth, J. M. Retirement behaviors of low-income and non low-income males. Unpublished PhD dissertation. Columbus: The Ohio State University, 1981.

14. Hogarth, J.M. A study of the early retirement incentive program of the New York State Employees Retirement System: preliminary report. Consumer Economics and Housing Researcher Paper Series RP84-3. Cornell University, 1984.

15. Maxfield, L. D. and Reno, V. P. Distribution of income sources of recent retirees: Findings from the new beneficiary survey. Social Security Bulletin, 48(1), 1985, 7-13.

16. Motley, D. Availability of retired persons for work: Findings from the retirement history study. Social Security Bulletin, 41 (6), 1978, 18-29.

17. Parnes, H.S.; ed. Work and retirement, Cambridge: The MIT Press, 1981.

18. Parnes, H.S., Nestel, G., Chirikos, T.N., Daymont, T.N., Mott, F.L., and Parsons, D.O. From the middle to the later years: Longitudinal studies of the preretirement and postretirement experiences of men. Columbus: Center For Human Resource Research, 1979.

19. Sherman, S.R. Assets on the threshold of retirement. Social Security Bulletin, 36 (8), 1973, 3-15.

20. Upp, M. Relative importance of various income sources of the aged, 1980. Social Security Bulletin, 46(1), 1983, p. 3-10.

21. Wentworth, E.C. Employment after retirement Social Security Administration, Office of Research and Statistics. Report #21, 1968.

REFEREED PAPER SESSION: FINANCIAL MANAGEMENT

Dottie Goss, Oklahoma State University[1]

Financial management research becomes ever more important for educators, counselors, policy makers, theorists, and households. Both shifts in the demographic composition of the population and the economic environment that households experience create the need for more current knowledge of the financial behaviors of households under various conditions.

The three papers presented explore very different aspects of financial management. The Dillman and Horton paper addresses the perception of stress from financial problems and coping strategies used by respondents. The Jeries and Allen paper tests the use of a Deacon and Firebaugh family systems management model to examine the satisfaction with the process of financial management of wives in college student couples. The Hogarth paper examines anticipated future employment for a population eligible for early retirement.

Dillman and Horton paper

In the Dillman and Horton paper, the purpose for comparing the two groups is unclear (one with financial problems causing the greatest stress with one where other problems caused the greater stress). One purpose could be to modify the family counselling model to better address the needs in situations where the stress is from financial concerns. Presently, the field of family counselling has a much larger base of theory and research than financial counselling. Appropriate use of that theory/research base could improve the quality of financial counselling.

Several of the variables identified as related to persons experiencing financially-related stress--younger age, lower income, rental housing (proxy for limited assets?), and unemployment may be describing control over and adequacy of economic resources. Children may create an additional demand on limited income and assets. Further research using additional statistical tools would be helpful.

The authors made assumptions regarding the productive or non-productive aspects of the strategies the respondents reported using to cope with their stresses. It would have been interesting to have the respondents' perceptions of usefulness of the strategies they used.

More information and cases would be needed to understand the situation with the unemployed. How important the respondent's employment income was for livelihood and the circumstance related to the unemployment might be explored.

Since the sample is from the general population rather than highly stressed individuals and only 6% indicated that they sought professional help frequently, perhaps the results have implications for the development of preventative and enrichment education as well as in the improvement of counselling in remedial and therapeutic situations. Instruments might be developed for individuals to use with or without a counselor to assess stress levels related to financial management and to assist in the development of positive coping strategies. Considering the normality or non-normality nature of stressful events could be useful. Is the financial stress related to a normal event that time will ameliorate and others have experienced or will experience? Or is the stressful situation an unusual event? In this sample, these demographic characteristics describing the respondents most likely to report financially related stress and related to normality events were young, with children, lower income, and renters. Unemployment would be a non-normality event.

Jeries and Allen paper

Now, let's turn to the Jeries and Allen paper. The paper delineates the inputs, throughputs, and outputs of financial management using a systems approach. They noted their findings indicated that families may follow the Deacon and Firebaugh managerial systems model as they evaluate the effectiveness of their managerial behavior. More likely, this model is a useful tool in analyzing what families actually do that contributes to wives' satisfaction with financial management.

The dependent variable was wives' satisfaction/dissatisfaction with financial management. Since money management practices are often points of disagreement in young couples, further research may be needed to determine if these same factors contribute in the same way to husbands' satisfaction/dissatisfaction. Student families with lower income have a perception that this will be a temporary status. This makes them unique as a group and makes it difficult to generalize these findings to other lower income families.

This model along with the relevant variables identified by the research could be used as a way of assisting student families to analyze and modify present behavior to improve satisfaction of wives with financial behavior.

Hogarth paper

The findings presented in this paper are intriguing. Respondents perceived adequacy of income in retirement was a major factor in any intentions to continue working after retirement, but the average number of anticipated hours of work per year were 32 hours in an average of 10 weeks time. This would undoubtedly be less hours in a year than respondents normally worked in a week during pre-retirement. Even with fairly high remuneration per hour, it seems unlikely that this amount of employment would contribute much to improving adequacy of income. Perhaps in the pre-retirement stage, respondents had not given thought to how all factors might relate to be able to be specific on the details.

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[1] Professor/Family Resource Management Specialist

The variable identified as ability to work uses measures describing ability to find employment meeting their desired specifications as well as their capabilities of working. Women and persons with lower educational levels may not perceive exciting, well paying job opportunities as being available to them.

The paper presented good recommendations based on the findings of the research.

Summary

All three papers add to the knowledge about financial behavior. Each has practical application aspects. Further research will be needed since each paper addresses their research questions with a fairly unique sample or situation.

DEMAND FOR NUTRIENT AND NONNUTRIENT COMPONENTS IN HOUSEHOLD PURCHASES OF RED MEAT, POULTRY, AND FISH PRODUCTS USING A HEDONIC APPROACH

C.J. Hager, Stockton State College[1]

SUMMARY

The major focus of this study was an analysis of factors affecting the demand for nutritional and nonnutritional components of red meat, poultry, and fish items by households in the United States (2). The components were: protein, food energy, iron, type of animal product, bonelessness, processing, cutting (into steaks, chops, or parts), and an adjustment for quantity purchased. The analysis was conducted in two parts, according to hedonic theory as developed by Sherwin Rosen (3) and A. Myrick Freeman (1).

The first stage functions related prices of red meats, poultry, and fish items to the components of the items to obtain implicit prices of components. A linear function was used to simplify the procedures for deriving the implicit prices. A semi-logarithmic function was also estimated.

The second stage functions estimated the influence of income, socioeconomic factors, and implicit prices of components on the quantities of the components that were purchased in the household's weekly bundle of red meat, poultry, and fish items. The implicit prices, estimated from the first stage linear functions, were used in this stage. The two-stage approach was then compared to a single-equation model that related the quantities of components purchased to income, socioeconomic variables, region, and urbanization.

The household phase of the Spring component of the 1977-78 Nationwide Food Consumption Survey (3) was used as the data base for testing the model. An observation was recorded for each red meat, poultry, fish item purchased and used by each household during one week. Households that acquired items as payment or as gifts or that produced items at home were excluded from the sample. The individual purchases were aggregated into an expenditure bundle for the second stage and the single-equation models.

Two general findings result from this study. First, prices of individual food items purchased and used by households in eight markets were related to the quantities of components in the items. The nutrient and nonnutrient components as a group explained significantly more of the variation in prices than either nutrients or nonnutrients by themselves.

Second, households did appear willing to pay for both nutrient and nonnutrient components of food items. The demand for these components was related to the socioeconomic characteristics of the households and to their incomes. Small variations in the implicit prices of such components had little or no effect on quantities of components contained in the purchased items, but further research is warranted.

References

1. Freeman, A. Myrick. "On Estimating Air Pollution Control Benefits From Land Value Studies." Journal of Environmental and Economic Management. 1 (1974): 74-83.
2. Hager, Christine J. "Demand for Nutrient and Nonnutrient Components in Household Purchases of Red Meat, Poultry, and Fish Products Using a Hedonic Approach." Unpublished Ph.D. dissertation, North Carolina State University, 1985.
3. Rosen, Sherwin. "Hedonic Prices Implicit Markets: Product Differentiation in Pure Competition." Journal of Political Economy 82 (1974): 34-55.
4. U.S. Department of Agriculture, SEA. Household Food Consumption Survey, 1977-78. Public Use Data Tape. Washington, D.C., 1980.

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*This study received the 1985-86 ACCI Dissertation/ Thesis Award

CONSUMER EDUCATION LITERATURE EVALUATION: A PANEL DISCUSSION

Golden Jackson, The Ohio State University[1]

The purpose of this session is to provide a forum for discussion of consumer education literature evaluation. The focus is on detection of bias in consumer literature--first, to define and review types of bias, and secondly, to analyze a proposed device for detecting bias and discuss ideas for revision.

The topic for discussion in this session is of interest for more than purely academic reasons. Bias in consumer education materials presents an obstacle to informed consumer choice for the following reasons. First, information presenting only one point of view or product limits alternatives to be considered. Secondly, biased information may present simplistic and incomplete solutions to complex problems. Finally, incomplete information may provide a limited understanding of problems or products.

Another set of concerns is related to the widespread use of free and low-cost materials. This can be expected to continue, given budget cuts for educational and other consumer-oriented agencies. Therefore, there is a continuing need to assist educators in evaluating materials.

This discussion is also an outgrowth of a workshop conducted by the Department of Family Resource Management in the summer of 1985. The workshop focused on concepts of consumer education, sources of consumer literature, evaluation tools, development of evaluation guidelines, and practice in evaluation. The objectives for students of the workshop were to construct or adapt an existing framework for concepts of consumer education; to recognize bias, to develop guidelines for evaluation, and to gain practice in evaluation.

As an introduction to evaluation, definition and concepts of consumer education were discussed in order to establish a framework for evaluation. The definition of consumer education chosen as the standard for evaluation is from the U. S. Office of Consumer Education (9):

"Consumers' Education" means the process by which consumers:

1) Develop skills to make informed decisions in the purchase of goods and services in light of personal values, maximum utilization of resources, available alternatives, ecological considerations and changing economic conditions;
2) Become knowledgeable about the laws, rights, and methods of recourse in order to participate effectively and self-confidently in the marketplace and take appropriate action to seek consumer redress; and
3) Develop an understanding of the consumer-citizen role in the economic, social, and government systems and how to influence those systems to make them responsive to consumers' needs.

Concepts presented by Bannister and Monsma (2) were selected as appropriate for designing consumer education programs. The framework, focused on three broad areas of decision making, resource management, and citizen participation, proved to be very effective. Most students had only considered buymanship in designing educational programs; further, the emphasis in most textbooks and other materials used by the workshop participants was evaluation of goods and services for purchase. By using the Bannister and Monsma framework, students were able to see interrelationships between buymanship and resource management and how decisions are affected by external as well as personal factors.

Students also were introduced to a variety of sources of literature. For example, information on life insurance from a public source, a trade group, and a commercial source was compared. Content and possible use of each publication were discussed. The remainder of the workshop time was used to develop and evaluate criteria, practice using criteria, and develop an instrument.

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[1] Assistant Professor

SOURCES AND TYPES OF BIAS IN CONSUMER EDUCATION LITERATURE

Jean S. Bowers, The Ohio State University[2]

Let me begin by making a clear statement of philosophy - in the best of all educational worlds, industry would not supply any materials used in consumer education. Gussow (5) provides support of this point of view with this question: "If business persons are bound to try to teach even children to buy their products, can they be ... educators?" The problem is "that even if the materials are not technically promotional, neither are they educational." The materials don't guide students toward considering alternatives--one of which may be NOT to buy certain items or to obtain the desired characteristics in other forms. Some of the alternatives may be less costly in dollars or less burdensome to the environment than are those serving the vested interest of any promoter.

A firm will undertake any activity until $MR \geq MC$. Consumer education materials are supplied to schools because the firm or industry perceives that the benefits will be greater than the costs.

Another source of distortion of the educational function comes to light when we examine four guidelines for consumer education offered by Joe Uhl (8):

1) to develop and clarify consumer values and goals,
2) to improve the managerial abilities of consumers,
3) to provide an understanding of economics, market processes and abilities to change market performance and
4) to improve the knowledge about markets and product alternatives.

Given the obligation of educators to include all of these areas in a carefully modulated balance, it is clear that the use of business supplied materials can distort emphasis. Business supplied materials often focus on products and on managerial skills; product information is also most popular with students. Private benefits and more easily perceived benefits come to students from this type of consumer education.

Yet Uhl states that the social benefits of consumer education are greatest in the areas dealing with identification of consumer values and goals and the impact of consumer choices on market performance. However, these returns are longer run, more intangible and often not perceived. Thus, teaching to these guidelines is more difficult.

As we are all operating in a less than perfect world which includes a far from perfect educational system, it behooves us to do the best we can. The system includes large quantities of educational materials provided by business. It also includes busy and over-burdened teachers who welcome attractive teaching materials. In some cases, these teachers do not have the skills for evaluating these materials for implicit or explicit bias.

Bias is not confined to business supplied materials. Textbooks often focus on buymanship and omit discussions of consumer issues, of goals and values or of the economics of the market. Government publications are often bland and ignore defects in the system such as toxic waste disposal, hazardous products or occupational disease and injury.

Corporate literature offers only positive aspects of the product and omits alternative solutions--such as not buying. Corporate literature may also be more overtly biased through the use of brand names or logos. Particularly disturbing may be the defense of a company viewpoint on such subjects as regulation, energy generation, or plant safety rules.

Given these many sources of bias it is necessary that the designers of corporate consumer materials and the teacher at both the secondary and college level work together to provide consumer education that is as free from bias as possible. This education should also aim toward inclusion of the four guidelines, thus providing high levels of private and social benefits to the students.

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[2] Professor

GUIDELINES FOR EVALUATION

Carolyn McKinney, The Ohio State University[4]

A research of consumer education literature reveals a number of checklists, guidelines and other tools pertaining to developing and/or evaluating resources for use in educational programs. By no means a comprehensive listing, the AHEA (1), MMI (7), SOCAP (4) and Harty (6) materials illustrate examples of varying types and formats of consumer literature evaluation guidelines and tools. Some of these guidelines and tools focus exclusively or primarily on corporate or industry sponsored materials while others focus more generally on consumer literature regardless of source. Some include considerations for selecting and/or evaluating a wide range of resources while others emphasize developing printed consumer education material.

In its current form (copy appears in Appendix), the proposed consumer literature evaluation device represents an effort to combine features from several guidelines which were reviewed. It is organized to assist in reviewing two general types of information pertaining to the material being considered:

1. General publication information such as title, author(s), publisher, publication date, cost, etc. as well as proposed usage (audience type or grade level, reading level or whether only as teacher reference).
2. Criteria and rating scale addressing four areas related to the content and presentation of the material under review: (a) objectives; (b) ability range; (c) content and presence of bias and (d) presentation and use.

In the current version, it is possible to compile a numerical score to represent the total evaluation process. An "acceptability range" can also be established for comparison with the "total score."

In addition to use by students in the summer workshop, a few limited reviews have been conducted informally with Cooperative Extension agents whose comments and questions are summarized as follows:

- -Some liked the rating approach but others found the four-point scale too limited.
- -A few thought it took too much time to complete the review. One person suggested that perhaps a given piece of literature could be reviewed by a "team" with each member concentrating on one section of the evaluation.
- -Some questions were raised regarding the meaning of "bias." For example, is omission of some critical data or concept considered mere "inaccuracy" or is it "bias"? Perhaps the criteria relating to accuracy, methodology, etc. could be separated from those dealing mainly with bias.
- -Some criteria seemed more important than others yet all are weighted the same. It was suggested that a weighting system may be useful/desirable to consider.

Since the agents had not participated in the workshop discussions, they were viewing the proposed evaluation device from a different perspective than had the students. However, if the proposed tool ultimately is to be useful to different types of educators/leaders in varied consumer education settings, the criteria must communicate common/shared meaning.

While the work thus far has been encouraging, discussion, comments and suggestions for changes are needed as a basis for refinement and eventual instrument testing on a more systematic basis.

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[4] Extension Specialist

APPENDIX

Proposed Criteria for Evaluating Consumer Education Literature

Title of material ______________________________ Date produced ______________

Evaluated by ______________________________ Date evaluated ______________

Producer (company or publisher) ______________________ Author ______________

Source of material (location) ____

Format of material ______________________________ Price ______________

Material to be used in ____
(audience type or grade level, teacher reference, etc.)

Reading Level ______________

Use the scale on the right to evaluate the material on the following criteria, with 4 being the most positive answer and 1 the least positive.

(4) Definitely Yes
(3) Yes
(2) No
(1) Definitely No
(0) Material cannot be evaluated on this concept

I. Objectives

	Scale				
A. Material will help learner think, understand, evaluate	4	3	2	1	0
B. Material contributes to development of critical thought	4	3	2	1	0
C. Materials complement or reinforce concept being taught	4	3	2	1	0
D. Materials contribute to the objectives of the lesson	4	3	2	1	0

Comments (on back)

II. Ability Range

A. Information can be adapted to interests, abilities, needs of learner	4	3	2	1	0
B. Language, vocabulary, sentence length, and style are suited to learner	4	3	2	1	0
C. Material provides motivation for learner	4	3	2	1	0

Comments (on back)

III. Content and Presence of Bias

A. Facts and figures used in the materials are current	4	3	2	1	0
B. Accuracy of the material is easily verifiable	4	3	2	1	0
C. The material provides information or experiences that would not otherwise be available	4	3	2	1	0
D. Additional references are provided in the material	4	3	2	1	0
E. Credentials of author are presented	4	3	2	1	0
F. Methodology used in achieving results is clearly stated	4	3	2	1	0
G. Assumptions made in reaching conclusions are presented	4	3	2	1	0
H. Bias for a product, organization, or social cause is omitted	4	3	2	1	0
I. Bias for a product, organization, or social cause is clearly stated	4	3	2	1	0
J. If bias exists, the material is still useful for meeting objectives	4	3	2	1	0
K. Alternative views are presented: arguments for and against differing viewpoints are provided	4	3	2	1	0
L. Material is free of product promotion via words, brand names, art work, or symbols	4	3	2	1	0
M. Material is honest and objective without exaggeration or omission	4	3	2	1	0

III. Content and Presence of Bias (continued)

	Scale				
N. Material is free of sexist and/or discriminatory language or concepts	4	3	2	1	0
O. Material promotes sex equity	4	3	2	1	0

Comments (on back)

IV. Presentation and Use

A. Material is easy to use (consider requirements for special conditions or equipment for use)	4	3	2	1	0
B. Material is attractive to learner	4	3	2	1	0
C. Material is readily available	4	3	2	1	0
D. Copyright restrictions are not present	4	3	2	1	0
E. Production quality is acceptable	4	3	2	1	0
F. Reproduction quality is acceptable	4	3	2	1	0
G. Clearly stated instruction to teachers and learners are provided	4	3	2	1	0
H. Learner activities and questions are provided	4	3	2	1	0
I. Cost of material is affordable	4	3	2	1	0
J. Perishability (length of use) of materials is an acceptable length	4	3	2	1	0
K. Material wil become dated	4	3	2	1	0
L. Timeliness	4	3	2	1	0
M. Figures, tables, and charts are readable and understandable	4	3	2	1	0

Comments (on back)

Total Score ____________

Range of acceptability ____________

Sources: Bryant, Baron, Tarrant (3), SOCAP (4), Harty (6), Manning and Boals (7).

REFERENCES

1. AHEA Committee on Criteria for Consumer Education Programs and Materials. A Guide for Evaluating Consumer Education Programs and Materials. Washington, D.C.: American Home Economics Association, 1972.

2. Bannister, Rosella, and Monsma, Charles. Classification of Concepts in Consumer Education. Monograph 137. Cincinnati, OH: Southwestern Publishing Company, 1982.

3. Bryant, Joyce, Baron, Nancy M. and Tarrant, Sharon M. (Eds.). Your Guide for Teaching Money Management. Prospect Heights, IL: Money Management Institute, Household International, 1983.

4. Guidelines for Business Sponsored Consumer Education Materials. Alexandria, VA: Society of Consumer Affairs Professionals in Business, 1982.

5. ussow, Joan Dye. "Who Pays the Piper." Teacher's College Record, 81, Summer, pp. 48-466.

6. Harty, Sheila. Hucksters in the Classroom. Washington: Center for Responsive Law, 1979.

7. Manning, Marion L., and Boals, Beverly. "Free and Inexpensive Material: Guidelines for Appropriate Selection." Clearinghouse, 55 (November 1981).

8. Uhl, J. W. "Consumer Education and Protection: A Synergistic Relationship" in Economics of Consumer Protection, Loys Mather (Ed.), The Interstate Printers and Publishers, Inc., Danville, IL 61832, 1972, pp. 101-114.

9. U. S. Department of Education. Application for Grants Under Consumers' Education Program. Washington, D.C.: 1980.

REACTIONS TO DISCUSSION, CONSUMER EDUCATION LITERATURE EVALUATION

Irene Williamson, Williamson International[3]

I have been asked to react to today's presentations on tools for the evaluation of consumer education literature.

As a consumer affairs consultant, I am frequently in the position of recommending to my clients the production of consumer education materials. I've also had first hand involvement in the production of consumer education and information pamphlets and programs during my 17 years with Avon products.

From my particular vantage point, I am pleased to see that methods are being developed to evaluate consumer education materials, whether they are produced by business, government or other sources. Certainly, there are many very good materials available to teachers and community groups involved in consumer education. All too often these may be rejected out of hand just because they are produced by business. On the other hand, there are many very poor pieces that may be in use. Neither situation does much good for either the producer or the user of the programs.

Being more closely linked to the business side, I have become tired over the years of defending business-produced materials. The Sheila Harty "Huckster in the Classroom" attitude can be very discouraging to those who are serious about doing a good job.

Let me tell you about the reality of corporate produced educational materials. It may not be the way so many in consumer organizations or academia may think that it is.

1. The consumer affairs professional in business is not usually the recipient of endless funds ear-marked for a consumer education campaign to influence a "huge captive audience." The reality is that it is often a hard sell on the part of the consumer affairs professional to get the dollars to do a program.

2. The days of corporate social responsibility programs, solely for the sake of saying "corporations are good guys" are pretty much gone. Corporate boards want to see bottom-line benefits for each of their programs and expenditures.

3. It will become more and more difficult to get corporate funding for programs unless corporate identity is a part of it, or the program in some way relates to the product or service of the company.

4. Although there have been studies indicating that consumer education programs have bottom line benefits for corporations, the quantification of these benefits is still not easy to come by. Therefore, it is easier to get corporations to spend money on advertising than it is for consumer education/information programs.

5. The production of consumer education programs and materials can be a very frustrating experience for corporations. Working with government agencies, consumer groups and some academics can make what set out to be a simple program ... a virtual nightmare. In trying to satisfy the requirements of all parties, the needs of no-one are met. After several such frustrating experiences, the willingness of a corporation to do yet another program is greatly diminished.

If we are to accept the premise that good consumer education materials can be produced by business, and that there is a need for them, then we must also accept the following:
-bias exists and must be recognized;
-the possibility of producing more acceptable materials is greater if these projects could be carried out cooperatively.

I don't think that we need still yet another set of evaluation guidelines. There are many already. Certainly we're all familiar with the SOCAP guidelines; and last year Peggy Haney of American Express presented the guidelines resulting from a Consumer Federation of American committee she was on. This was written up in your ACCI Proceedings last year.

I also don't think that we want to perpetuate the belief that all corporate produced materials are bad, and therefore, we need to keep producing new evaluation instruments to keep business honest. I point to the Avon report on its conference "Should There be a National Agenda for Consumer Education" as an example of about as unbiased and impartial a piece as any I've come across.

Based on the experiences that I have personally had I would like to propose that the problem be looked upon, not as a problem, but as an opportunity. An opportunity to produce more and better consumer education/information pieces that will be funded by business and satisfy more - not all - of the needs of both parties.

1. I would like to suggest that we in business would appreciate a clearinghouse function that would provide listings of topics that teachers would like to see developed into educational programs. Similarly a listing of topics already done, and by whom, would be helpful. Stewart Lee's "Consumer Education Resource Kit" is a step in this direction.

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[3] President

2. I would like to see a pool of educator/consultants who would be available to work with business in the development of materials on the listed topics. It is often difficult to find the right people to work with who have the respect of the educational community and an understanding of the needs of business.

3. I would like to see more teacher-training on the use of corporate sponsored materials. Here is where evaluation techniques should come into play. Teachers should be aware of what is available, what is good about it, what is bad about it, how it can fit into their class programs.

4. I would like to see more consumer education resource centers at universities around the country. I remember when at Avon perhaps ten years ago I was involved in the development of a school program for Avon. Bill Johnston had a research center in New Jersey where we were able to do focus group sessions with high school teachers in the early planning stages of the program. We were able to meet with students to get their reactions to materials during development. We were able to get evaluations of the finished product. We were able to get suggestions for product improvement. We were able to get ideas for distribution.

5. I would like to suggest that all of the above functions could be carried out through consumer education resource centers--including your resource people, training and materials.

It is my feeling that good consumer education materials can be of tremendous value to schools, as well as business. It is in the best interests of both sides to work together to produce the best materials possible. It is definitely in the best interests of all to have the materials used properly.

If we get no further than the development of evaluation instruments for materials, at least let those producing the materials know the criteria by which our programs will be judged. Is there a way to pull together all of the guidelines and consolidate them into one "bible for all to follow? Is there a way to communicate the rules to all who are involved?

I would like to close with the usual disclaimer that the ideas presented here today are solely those of Williamson International and do not represent the opinions of any clients or consumer groups or educators I have worked with in the past.

If I have any reputation in the field, it is that I tend to be a very practical person who usually tells it like it is. I strongly believe in the benefits of consumer education, and believe that business can have a very significant role to play in the development of these materials. The business world can provide a very practical side and a very technical side to consumr problems. Through cooperative ventures, and a system that makes such ventures possible, practical and easy, we can expect to see more and better materials being produced.

Without cooperation, I would predict that we will continue to develop still additional guidelines for evaluation - after the fact. What we need now is practical guidance at the beginning - and during development - rather than criticism at the end.

CONSUMING UNITS AROUND THE WORLD

Jeanne L. Hafstrom, University of Illinois--Urbana-Champaign[1]

BACKGROUND

Culture-centric predicament is defined as a person's "unconscious emotional attachment to his own culture" [1]. According to Hoyt [1], individuals and groups choose (albeit unconsciously) to believe and express that ideas or convictions of their own culture are valuable and fail to perceive the different values of others.

In the early stages of its development, culture-centric predicament has a positive effect on a society. However, as the world becomes smaller through communication and more contact among individuals from different cultures, the culture-centric predicament can inhibit the exchange of ideas and can tend to keep people believing their own culture is "best." This can inhibit understanding of other cultures and world development.

One way it is possible to escape the culture-centric predicament is by using the scientific method (especially statistics) to obtain and present facts significant in making comparisons of well-being [1]. Therefore, it is the objective of this roundtable, insofar as possible, to present data on consuming units from several different countries to make meaningful comparisons on well-being among these cultures.

OBJECTIVE DATA SELECTED

The most important data to use in comparing well-being across cultures is not only the size and security of income but the age, sex, and family status of contributors and claimants to family income [2]. Therefore, data on sex and age of money-income recipients are presented for different countries as close to the same point in time as possible. In addition, data on the family status of the different populations in five countries are presented, and some discussion of how consuming units in these countries support any relatives not living with them and provide for child care are included.

Other information, our roundtable group decided was related to consuming unit behavior, includes geographic location and climate, major types of goods imported and exported, education, life expectancy at birth, per capita Gross National Product, type of government, residential location, and labor force participation. The objective data presented are not exhaustive. There are many additional factors that could be included.

SUBJECTIVE DATA SELECTED

More subjective data on consuming unit customs and values are discussed in individual papers. Sources for information are included, but some reflect the observational expertise of authors who come from the countries they discuss. The actual choice of data for discussion, of course, is considered a limitation of our roundtable presentation.

CONCLUSIONS AND IMPLICATIONS

Data presented and discussed in this roundtable clearly indicate that consuming units in Indonesia, Korea, Nigeria, Puerto Rico, and the United States have similarities and differences that have an effect on their well-being. Several factors that are related to consuming unit behavior have been presented, but we have just begun to examine consuming unit well-being in different parts of the world.

Consuming unit behavior in different parts of the world is a fertile area for consumer research, one that several graduate students in Family and Consumption Economics at the University of Illinois are pursuing. The choice made to collect data on consuming unit behavior and to observe this behavior at several levels of development in different cultures around the world is one that Hoyt would have wanted family and consumer economists to pursue. It is the hope of members of this roundtable panel that many others will join in the search for meaningful data to use in comparing consuming units around the world.

REFERENCES

1. Hoyt, Elizabeth E. Choice and the Destiny of Nations. New York: Philosophical Library, 1969.

2. Kyrk, Hazel. The Family in the American Economy. Chicago: University of Chicago Press, 1953.

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INDONESIA AND ITS CONSUMING UNITS

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Indonesia extends over part of the world's largest archipelago between two countries, Asia and Australia. Indonesia has a land of 735,354 miles, of which over half is forest and a significant amount is mountainous and volcanic. The republic is made of some 13,700 islands which stretch 3,200 miles from east to west. Most of Indonesia lies along or just below the equator. The country has a tropical, monsoon-type climate, featuring slight changes of seasons and temperature, low winds, high humidity, and periodically heavy rainfall. [2]

The government of Indonesia is based on a 1945 constitution, the year Indonesia declared its independence from the Netherlands. The constitution vests the highest authority in the People's Constitution Assembly and provides for the establishment of four independent branches: President, House of People Representatives, Supreme Audit Board, and Supreme Court.

Indonesia is the fifth most populous nation in the world, exceeded only by China, India, the Soviet Union, and the United States. In 1980, the census [2] estimated Indonesia's population as 147 million (33 million urban and 114 million rural).

The Indonesian population is predominantly youthful with more than one-half under 20 years of age. The age composition has a pyramid shape which indicates that the birth rate is high (40.3 per 1000) and life expectancy is about 50 years for males, 53 years for females. The death rate is 19.9 per 1000 people. Indonesia's population growth rate is estimated at 2.3 percent per year. It is expected that the population will rise to about 225 million by the year 2000. The government has undertaken a comprehensive family planning program designed to reduce the annual growth rate. [2]

Census data reveal that the population of young people with a primary education is greater in urban than rural areas. A large proportion of young urban population, both males and females, have a senior high school education or above. On the other hand, the young rural population continues to be small. [2]

Figures show that female labor force participation rates are higher by approximately the same percentage in the rural as opposed to urban areas for all age groups; but for males, the rural-urban deviation occurs mainly at age groups below 30 and above 40. [2]

In the decade prior to 1978, gross domestic product (GDP) increased, in real terms, at an average rate of approximately 7.3 percent per year, in contrast to approximately 2.0 percent per year between 1960 and 1967. During 1981, Indonesia had one of the highest growth rates among the developing countries in terms of real gross domestic product--7.6 percent. During this period, per capita GNP was $520. Total exports for the year were $22,260.3 million as compared with $21,908.9 million in 1980. Oil and liquid natural gas continue to be the leading exports. Imports for the same period were $13,272.1 million versus $10,834.4 million in 1980. The leading imports were capital goods. [4] The Indonesia government is trying to increase export of non-oil commodity goods due to the falling price of oil. In the most recent fiscal year, Indonesia's overall balance of payments in terms of change in net international reserves showed a surplus of $10.7 billion. [1]

Rice is one of the main foods for the Indonesian people. For almost 130 years, Indonesia imported rice to feed its people. In 1984, Indonesia had succeeded in producing more rice than needed. Indonesia, as a developing country, became a nation with surplus food over and above enough to feed its people. On November 14, 1985, the Food and Agriculture Organization complimented the Indonesian government for this success.

Chernichovsky and Meesook [3] compared the consumption patterns of poor, better off, and rich households in urban and rural areas of Java and the Outer Islands. The poor people spent approximately 73 percent of their income on food, compared with 44 percent for the rich. They also spent 4 percent on clothing and 0.7 percent on durable goods compared to 8 percent and 16 percent, respectively, for the rich. According to Chernichovsky and Meesook, the poor in urban areas allocated a slightly higher proportion on expenditures relating to schooling; in rural areas, they spent a smaller proportion. With respect to expenditures relating to health care, the poor clearly spent a smaller proportion of their budget than the rich.

REFERENCES

1. Bank Indonesia. (1985). Laporan Tahun Pembukuan. Jakarta, Indonesia.

2. Biro Pusat Statistik. (1983). Statistik Indonesia. Jakarta, Indonesia.

3. Charnichovsky, Dov and Meesook, Oey Astra. (1984). "Poverty in Indonesia." World Bank Staff Working Paper 1 (34).

4. National Development Information Office. (1982). "Economic Update 1982." Jakarta, Indonesia.

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CHARACTERISTICS AND ENVIRONMENT OF CONSUMING UNITS IN KOREA

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GEOGRAPHY AND CLIMATE

Korea consists of a mountainous peninsula jutting out from Manchuria and 3,579 contiguous islands. The total area is about 85,000 square miles, about the size of the British Isles [3].

Influenced by monsoons, climate in Korea shows wide variations and differences. It has four distinctive seasons. The average temperature throughout the year is 55.4°F. The temperature extremes range from -18.4°F in the winter to a maximum of 104°F in the summer [3].

POPULATION

The country's total population stood at 37,436,315 in 1980, 18,767,201 males and 18,669,114 females, recording a sex ratio of 100.53 males to 100.00 females. The growth rate was 1.57 in 1980, yet the rate has been falling according to the Economic Planning Board estimations [3].

Due to the success of the Government's population control policy, the birth rate has declined rapidly in recent years to 23 per 1000. The mortality rate has shown the same tendency of decrease owing to the improved medical facilities and increasing concern of public welfare, recording 7 per 1000 in 1980. The average life expectancy increased from 62.7 years for men and 69.1 years for women in 1980 to 64.2 years for men and 70.6 years for women in 1983 [2].

HOUSEHOLD CHARACTERISTICS

The total number of households in 1980 reached 7,969,201, up 19.9 percent from the figure 6,646,539 of 1975. The number of family members per household decreased from 5 persons in 1975 to 4.6 persons in 1980, reflecting a growing nuclear family. This structural transition is relatively conspicuous among the urban population while traditional extended family structure is rather prevalent among rural population [3].

The family is the primary social unit in Korea and family relationships have a powerful influence in Korean society. In 1981, the rate of marriage was 8.3 per 1000 and average age of marriage was 25-29 for men and 20-24 for women. Incidentally, divorce was regarded as taboo until a few decades ago in Korea. Following from this is the divorce rate as low as .52 per 1000 in 1981 [2].

EDUCATION

Education has been always stressed throughout the history of Korea. As a result, the literacy rate in Korea is 90 percent, one of the highest in the world. With the compulsory primary education, there are over 10 million students including about 1 million college students [1]. The mode was high school graduation both for males and females in the younger generation (under 45 years) in 1983 [3].

ECONOMY

During the 20 year period from 1962 to 1981, Korean economy maintained an average annual growth rate of 8.6 percent, more than double that of the world's major industrial nations. Spurred by the steady growth in commodity exports, per capita Gross National Product (GNP) has risen to $1,877 in 1983. The nation's exports in 1984 totaled more than 29.21 billion dollars, 5.0 percent of which was accounted for by primary products and 95.0 percent of which was accounted for by manufactured goods. Imports in 1984 came to more than 30.6 billion dollars; imports of raw materials, capital goods, and consumer goods occupied 13.2 percent, 29.4 percent, and 4.3 percent respectively [1].

With 78.9 percent propensity to consume, consumption expenditures were 30 million dollars in 1982. The average monthly expenditure was $317 for urban households in 1983, $302 for rural in 1982. The per household average monthly income of urban workers in 1984 was $729.18 while monthly earnings of a rural household averaged $578.02 [3].

REFERENCES

1. Adams, E. B. (1980). Korea Guide. Seoul: Seoul Information Tourist Publishing Co.

2. United Nations. (1985). Demographic Yearbook 1983: Special Topic Population Census Statistics. New York.

3. Yonhap News Agency. (1985). Korea Annual 1984: Handbook on Korea. 22nd Annual Ed. Seoul: Yonhap News Agency.

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CONSUMING UNITS IN TRANSITION--THE NIGERIAN EXPERIENCE

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INTRODUCTION

Nigeria is situated on the West Coast of Africa. With a population of about one hundred million, it provides a large market which attracts salesmen from all over the world. [5]

Prior to the discovery of mineral oil, agriculture was the mainstay of the economy with over 70 percent of the workforce in this sector. [5] Then, life was simple with all grown up members of the family contributing to the family income, while consumption was limited to the basic necessities of life. The increased revenue from mineral oil facilitated modernization, particularly of the market sector. This, coupled with the rapid increase in literacy, triggered a dramatic change in consumption.

CONSUMING UNITS IN NIGERIA

The Consuming units in Nigeria include the family as well as the household but mostly the later, in view of the predominance of the extended family system. In the Urban areas, the nuclear family seems to be on the increase.

Life expectancy in 1965-66 was 37.2 years for males and 36.7 years for females, but by 1975-80 it had risen to 45.9 years for males and 49.2 years for females [3]. This substantial gain reflects improvements in health care, and the development of a healthier and more consumption oriented society. In fact, there were just over 4,000 medical practitioners in Nigeria, or 1 to 19,000 persons in the late 1970s, but this ratio was expected to drop to 1 to 10,000 at the rate of influx of foreign doctors, [5] and with the expansion in the number and scope of medical schools.

Consumption decisions among the consuming units depended on the item for consumption. Food consumption decisions, for instance, was the prerogative of the wife, while decisions about housing, transportation, education and health care were for the husband. This pattern of decision making remains true of the rural consuming units, while in the urban centers, consumption decisions have evolved into a joint endeavor, particularly with the increasing participation of women in the labor market.

EDUCATION AND INCOME

A major factor in the change in consumption is the rapid increase in literacy. In 1963, there were 11,000 students who sat for the high school diploma. In 1967, the number increased to 27,000; and by 1976, it jumped to 161,000.[1] With the improvements in literacy and health conditions, average productivity and hence income increased. Thus, while the wage rate in the manufacturing sector averaged 1.42 Naira or 2.2 dollars per day in 1973; by 1979, it had risen to 3.3 Naira or 5.9 dollars.[4]

CULTURAL CHANGE AND CONSUMPTION BEHAVIOR

Part of the colonial legacy in Nigeria is what might best be described as "Colonial mentality." This was a cultural infusion by Britain, which came to regard all local products as inferior and all imports as superior.[2] The influx of foreign investors and salesmen, at the peak of the Nigerian oil wealth, also contributed to the infusion of foreign culture. Nigerians soon began to associate modernity with conspicuous consumption and success with the power of consumption. So high was the craving for imports that the nation spent $20.9 billion on imports in 1981 while a decade earlier (in 1970) it spent approximately $1.1 billion [4].

CONCLUSIONS

Conspicuous consumption in a nation that produces little and, even at that disregards its own products, means having to spend enormous amounts of foreign exchange on imports. While the government strives to discourage the import of luxury items, it will take nothing short of cultural revival to put this potentially rich African nation back on the road to development.

REFERENCES

1. International Labor Office. (1981). First things First: Meeting the Basic Needs of the People of Nigeria. Addis Ababa, Ethiopia: United Printers.
2. Uko, John Paul. (1983). Conspicuous consumption, marketing and economic development in Nigeria. Unpublished doctoral dissertation, University of Illinois, Urbana-Champaign.
3. United Nations. (1972, 1982). Demographic Year Book. New York.
4. United Nations. (1982). Statistical Year Book. New York.
5. United States Department of Commerce. (1981). Nigeria: A Survey of Export Oppportunities. Washington, D.C.: U.S. Government Printing Office.

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PUERTO RICO: CONSUMING UNITS AND CUSTOMS

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INTRODUCTION

The island of Puerto Rico is located between the Atlantic Ocean and the Caribbean Sea, approximately 900 miles south of Florida and 350 miles north of Venezuela. It is a tropical island with temperatures fluctuating from 65 degrees in the mountains to 95 degrees on the coast, with little variation during the year.

Puerto Rico was "discovered" by Chistopher Columbus in 1493. Inhabitants at that time were the taino indians. From 1493 to 1898, the island was part of Spain from which it got, among other things, the language, religion, and particular type of family structure. After the Hispanoamerican War of 1898, the island became part of the United States. Puerto Ricans have been U.S. citizens since 1917. They share the United States currency, postal service, and defense. The political status of Puerto Rico is a commonwealth of the U.S. Because of this political and economic linkage, anything that affects the U.S. economy also affects the economy of Puerto Rico.

MACROECONOMIC VIEW

Puerto Rico's gross national product in 1983 was $12,933; net income, $10,390; and personal income that year was $12,726. Disposable personal income was $11,967, and personal consumption expenditures were $12,991, meaning that consumption expenditures exceeded disposable personal income by $1,024. Net income by industrial origin was: agriculture, $435; manufacturing, $5,765; trade, $1,701; commonwealth and municipal government, $2,021; Federal government, $343; other, $125. (All figures in millions.)

Exports to the U.S., the Virgin Islands, and Foreign countries sum to $8,521 and imports were $5,209 in current 1983 dollars. The consumer price index (1967=100) was 246.4 for 1983. [2]

THE FAMILY AS A CONSUMING UNIT

The population of Puerto Rico in 1980 census was 3.2 million. There were 757,645 families. Seventy-seven percent of these families were formed by married couples; approximately 19 percent were headed by females, no husband present; and approximately 4 percent by males, no wife present. Average size was 4.01 persons. The birth rate in 1982 was 21.2 and the death rate was 6.6 per thousand. Life expectancy is 73.11 years. The median age is 24.6 years for males and 25.5 years for females. The mean income in Puerto Rico in 1980 was $8,271. About one-third of persons 3+ years are in school. [1]

Persons 16 years of age and over represent 69 percent of the population. Of those, 41 percent are in the labor force; 77 percent employed and 23 percent unemployed. The 59 percent, not in the labor force, is comprised of 11 percent in school, 32 percent keeping house, and 15 percent retired, incapacitated, or voluntarily idle. [1]

CONSUMING CUSTOMS

U.S. influence mainly through television advertising and national firms established on the island is very strong. Puerto Ricans tend to imitate or emulate U.S. consumers, but lack the same purchasing power. Two other variables that affect consumer behavior are mild climate and Spanish heritage. Families are becoming more involved in shopping together due to the presence of shopping centers in major cities.

Food purchases are made in grocery stores, usually large U.S. or native supermarket chains. But the Plaza de Mercado (open air markets) is still the place to look for fresh vegetables, fruits, seafood, and meats. Venders here buy directly from farmers who bring produce to the market to sell. Street venders also are common. Clothing consumption consists of "summer" type the year around. There is no tendency to buy seasonally. The only similarity to seasonal buying is at holidays and before school starts.

In homes in Puerto Rico electricity and running water are the norm. Air conditioning is in most middle and high income family homes. Houses for the last four decades have been made of cement due to the rise in the level of living and fear of tropical storms. Although a recent tendency is to go back to wood houses, especially affordable manufactured wood houses.

REFERENCES

1. U.S. Bureau of Census. (1984). 1980 Census of the Population Detailed Population Characteristics, Puerto Rico. Washington, D.C.: U.S. Government Printing Office.

2. Junta de Planificacion de Puerto Rico. (1983). Estadisticas Socioeconomicas, Puerto Rico. Santurce, P.R.: Division de Presupuesto Y Finanzas.

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DESCRIPTIVE CHARACTERISTICS OF CONSUMING UNITS IN THE UNITED STATES

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Relatively few nations have as diverse a population as the United States. Differences spring from histories, racial mix, ethnic background, *and life styles of inhabitants and are reflected* in family and household structures. While pressures to conform exist, groups maintain unique patterns of behavior and custom hidden in aggregated data. Various population components are examined and observations about the impact of these groups, and the consuming units they maintain, on consumption are discussed.

URBAN AND RURAL CONSUMING UNITS

In 1980, 74 percent of the population, 167 million, lived in urban and 26 percent, 59 million, in rural areas [1]. Even as late as the 1920's, the rural population was larger than the urban, so one of the main changes in consuming unit characteristics has been the rapid growth of those in cities. In 1982, about 57 million households were in metropolitan and 27 million in non-metropolitan areas [2]. Mean 1981 income of metropolitan households was $24,355, whereas income of those in other areas was $19,435 [3].

Farm population declined from about 25 percent of the 1930 population to 3 percent of that in 1982 [4]. Average family size for non-farm and farm families was 3.25 and 3.27 persons, respectively [2]. Married couples headed 93 percent of farm families in 1982. Three percent were male householders, no wife present; 4 percent were female householders with no husband. This compares to 81 percent of non-farm families headed by married couples, 3 percent by males and 16 percent by females alone. Median family farm income in 1981 was $17,082 compared to $22,554 for non-farm families. Twenty-seven percent of farm families had incomes under $10,000 and 29 percent had incomes over $25,000 [3]. This compares to 17 percent under $10,000 and 44 percent over $25,000 for non-farm families. Per capita personal income of the farm population in 1982 was $8,704, however only $3,297 of that was from farm sources [5].

IMPACT OF RACE AND NATIONAL ORIGIN

As of 1982, 86 percent of the population was white, 12 percent black, and 2 percent other races. Characteristics vary considerably. In 1982, 38 percent of whites over 25 had completed high school. Of the 53 million families, 49 percent had own children. Twelve percent of households had female heads; 7 percent were female headed with children. Median income for white families was $23,517; 11 percent were below the poverty line; 70 percent lived in owner-occupied housing; 30 percent rented [2].

In 1982, 32 percent of the black population completed high school. There were 6 million black families of which 61 percent had own children; 55 percent were married couples; 41 percent had female heads. Median family income for black families was $13,267; 34 percent were below the poverty line. Forty-seven percent lived in owner-occupied housing; 53 percent rented [2]. Among the 4 million families of Spanish origin in 1982, 69 percent had own children; 22 percent had female heads; 27 percent had completed high school; 26 percent were below the poverty line; 47 percent lived in owner-occupied housing; 53 percent rented [2]. Of black households, 78 percent lived in metropolitan and 22 percent outside metropolitan areas. Of Spanish households, 86 percent lived in metropolitan and 14 percent in nonmetropolitan areas. Unemployment among black and Spanish households in 1982 was 8 percent, but among all households, it was 5 [2].

CONCLUSIONS

Data suggest black and Spanish origin households have fewer resources for consumption. Further, because of lower education levels, efficiency in consumption may be lower in minority households. White households tend to spend more on home ownership. Minority families have a higher percentage of families with children, and thus spend a higher percentage of income on child-related goods and services. Using these and other variables (e.g., geographic region, occupation, and cultural and social groups), the diversity in one culture can be compared to others.

REFERENCES

1. U.S. Bureau of the Census. (1980). Census of the Population. (Vol. 1). Washington, D.C.: U.S. Government Printing Office (GPO).
2. U.S. Bureau of the Census. (1984). Current Population Reports. (Series P-20, No. 381).
3. U.S. Bureau of the Census. (1984). Current Population Reports. (Series P-60, No. 140).
4. U.S. Department of Agriculture. (1982). Farm Population Estimates for 1910-1970. Washington, D.C.: GPO.
5. U.S. Department of Agriculture. (1983). Economic Indicators of the Farm Sector: Income and Balance Sheet Statistics. Washington, D.C.: GPO.

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DESCRIPTIVE CHARACTERISTICS OF HOUSEHOLDS IN THE UNITED STATES

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In 1953, Kyrk discussed the family as the basic consuming unit in the United States, describing people who live in the same household as being "those most closely related and those whose claims upon and responsibilities for one another are prior to those upon and for others" [1]. Even today, some 30 years after those "baby boom" days, many still think of the nuclear family--two parents, children--as the typical consuming unit in the United States. However, what people think, and even what they observe with a casual glance, is not necessarily a representative description of the consuming units in this country. From descriptive data, it is possible to estimate what the average household in the U.S. is really like.

INDIVIDUALS IN THE U.S.--TRENDS

The first thing found is that the median age of the U.S. population increased from 30 years in 1980 to 31.2 years by 1984. One of the fastest growing segments in the U.S. population between 1980 and 1984 were those aged 85 and older [4].

People in the U.S. are also living longer. Life expectencies have been increasing ever since the beginning of the century, which is part of the reason for the aging trend in the population. A white male child born today will live, on the average, to be over 70 years; a white female child will live to be over 75. The life expectencies of black children born in the U.S. are about 7 years less (males living to 63.7 and females to 72.3 years) [6].

Birth rate in the United States in 1980 was 15.7 per 1000 people, while the death rate was 8.8 per 1000. Males had a higher death rate than females (9.8 per 1000 for males; 7.9 per 1000 for females). This indicates a natural increase in the population of 7.1 per 1000 people [6].

HOUSEHOLDS IN THE U.S.

What do households in the U.S. look like? It appears there is no clearly typical household. The average household is most likely to be located in an urban rather than a rural area--73.7 percent of households are located in urban areas [2]. The median size of a household was 2.75 people in 1980, down from 3.14 in 1970. Black households tend to be larger, with an average of 3.65 people per household in 1980 [3]. The composition of households varies greatly from the "nuclear family" assumption made earlier. For example, those without children were 29.9 percent of households in 1980. Over 17 million people lived in single-person households--22.7 percent of all households. Single-parent households made up another 7.3 percent of households, and 19.3 percent of those households with children under 18 present. (This trend was even more pronounced in the black population, where 48.8 percent of families with children had only one parent present.) Over 90 percent of single-parent families were headed by women [4]. About 5.4 percent of 1980 families were "extended" family households. Only 31.7 percent in 1980 were the "nuclear families" mentioned earlier in this paper.

How well are these consuming units faring? Median income in the U.S. was $26,433 in 1984, with almost one-fifth in the $25,000-34,999 income range. However, about 14.4 percent of people in the U.S. are below the poverty level. Families maintained by women were 48 percent of all poor families in 1984 [5].

IMPLICATIONS

In looking at data and drawing some conclusions about the average consuming unit of the U.S., it does not resemble what many consider the traditional family structure. By examining data on households in the U.S. as they are, it is possible to provide insight into consuming units as they exist in the United States. This provides a basis for comparing characteristics of U.S. consuming units with those of other countries.

REFERENCES

1. Kyrk, Hazel. The Family in the American Economy. Chicago: University of Chicago Press, 1953.
2. U.S. Bureau of the Census. (1980). 1980 Census of Population and Housing. (Vol. 1). Washington, D.C.: U.S. Government Printing Office.
3. U.S. Bureau of the Census. (1980, 1984). Current Population Reports. (Series P-20, Nos. 398 and 357, respectively).
4. U.S. Bureau of the Census. (1984). Current Population Reports. (Series P-25, No. 965).
5. U.S. Bureau of the Census. (1984). Current Population Reports. (Series P-60, No. 149).
6. U.S. National Center for Health Statistics. (1980). Vital Statistics of the United States. (Vol. 2). Washington, D.C.: U.S. Government Printing Office.

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RATIONALIZING FOOD BUYING FOR INDUSTRIAL SOCIETY: THE ROLE OF CONSUMER EDUCATORS

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ABSTRACT

Through an examination of messages and motivations of change agents around the turn of the century, this paper argues that consumer educators have been partially responsible for the poor nutritional quality of contemporary U.S. diets. This is so because we have taught consumers to adapt to changes and survive in the marketplace rather than to resist detrimental changes.

Contemporary U.S. dietary patterns are frequently cited as the cause of poor health status for the population as a whole. But, rather than focus on the traditional problems of dietary deficiencies, medical professionals and nutritionists have increasingly been concerned with dietary excesses. Aggregate figures show the trends since the late nineteenth century of increased consumption of potentially harmful ingredients such as sugar, fats, and salt and the epidemiological consequences associated with those consumption changes (e.g. diabetes, obesity, cancer, heart disease, and hypertension). (15) For example, one source estimates the annual health costs of poor nutritional status to be $40 billion. (14,p 2)

Altered dietary habits in the U.S. are generally attributed to changing lifestyles made possible by technological advances and rising per capita income. And on the surface, this explanation appears to be adequate. For example, the amount and variety of food available to American consumers would be impossible without mechanization, added chemical inputs, preservation, and transportation systems--all products of our technological revolution. Nor would women have been able to enter the workforce at the rate they have this century were it not for the built-in convenience of new products. Conversely, convenience foods and restaurants have enjoyed greater demand as women have changed the location and circumstances of the work they perform. Thus, it appears that consumers have "voted" for the production changes that manufacturers have provided.

But this theory is somewhat facile, lacking explanatory power for a number of phenomena. For example, because technological progress and rising income should permit greater ranges of choice, why have lifestyles changed so uniformly? Has the impetus for change been rooted in individual consumers, as the consumer sovereignty theory would posit, or in some larger socio-economic changes over which consumers had little or no control? I have argued elsewhere (5) that the needs of production associated with specific stages of capitalist development have been more important determinants of dietary changes than have heretofore been given credit.

In this paper, I will focus on the role of change agents, that is, educators and helping-professionals who, from the late nineteenth century through the 1920s, aided in the radical process whereby women were socialized for their new role as family consumers. The analysis will examine the needs for and means by which socialization for market consumption and rationalization of homes to be more compatible with industrial conditions were effected. The socialization and rationalization processes will be applied to altered food consumption habits as well as to the motives of change agents who advocated and taught incremental changes which I believe led to our present dilemma of being highly dependent on the industrial and commercial sector for our food supply.

MANUFACTURING CONSUMERS

During the second half of the nineteenth century, greatly increased productivity of labor coincided with an abnormally rapid natural growth in population providing ever widening horizons for capital investment and profit accumulation. Investment opportunities included markets for production goods for manufacturing, transporting, and distributing consumption goods. However, the market for the latter was limited by the size of the population that had the means to purchase commercially produced goods. Initially, the increase in the working class was sufficient to allow growth in markets for consumer goods. Inevitably manufacturers and sellers would conclude that increases in purchasing power and incentives to consume rather than save would be necessary for further market expansion.

Examination of industrialists' attitudes and actions around the turn of the century reveal their stake in encouraging workers to consume. Contrary to accepted wisdom, I would argue that producers have attempted to gain as much control over the realm of consumption as that of production. Ewen makes such an argument in his analysis of advertising and the development of a consumer culture. (9) He claims that similar to corporate welfare programs for safety, recreation, and education, the use of advertising to superimpose new notions of what individuals wanted to attain was seen as a means of increasing worker productivity and better maintain social order. Others have claimed that by promising the potential for a more materially comfortable and entertaining leisure and home life, industrialists had more leverage in the struggle for a disciplined work force. (13) Not only were wages necessary to take part in the "good life," but consumption was touted as consolation for the unpleasantness of work. (12) Thus, "The development of an ideology of consumption responded both to the issue of social control and the need for goods distribution." (9,p 19)

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Printers' Ink, a major trade journal for advertisers, expressed this felt need for social control during the 1920s.

> 'Modern machinery . . . made it not only possible but imperative that the masses should live lives of comfort and leisure; that the future of business lay in the ability to manufacture customers as well as products.' (Quoted in 9,p 53)

This manufacturing of customers was a part of the larger process whereby household life was transformed to be more compatible with industrial conditions -- an important goal of the domestic science or home economics movement.

Rationalizing the Home

Simultaneous to the spread of Taylorism in industry, attempts were made to "modernize" household work as well. Many observers have argued that Taylorism's emphasis on exclusive control by management of all decision-making merely attempted to increase productivity by seeking the "best ways" to do work. From another perspective, scientific management sought to control laborers optimally by denying them the right to make any decisions about work. Instead, all problems were to be solved by central management whose policies were then used uniformly by all laborers. (3) Whether one believes that Taylorism was a progressive or oppressive movement, it is evident that central control by educated professionals could improve efficiency of operations while reducing undesirable and unpredictable errors. Thus, the theory and practices of rationalizing the work process were advocated for the home for obvious and covert reasons.

According to Strasser (16), there were three major thrusts of the home rationalizing process in its early stages, all of which are relevant to socialization for market consumption. The mainstream was represented by attempts at domestic education.

> In their emphasis on following the "laws of progress," home economists made no effort to return production to the home, or otherwise reverse the trend from production to consumption. Instead, they put considerable emphasis on teaching women how to be good consumers. (16,p 149)

It should be pointed out, however, that home economists did not advocate full scale adoption of commercially produced convenience since it was often too costly for poor families. At that point, convenience was still a luxury even though it was progressive. Emphasis of consumer education was on getting the most and/or best food for a given unit of money. For example, they taught that the most economical and sensible diets were those whose cost per pound were low relative to their yield of protein and calories. Unfortunately, the use of that criterion rendered fruits and vegetables poor buys because they were relatively expensive and knowledge of vitamins and minerals was in its infancy. (6)

While domestic education represented the mainstream of attempts at integrating the household with the rest of the economy, the right and left wings of the home economics movement had important influences as well. Strasser designates Christine Frederick as the head of the right wing whose major goal was the adaptation of scientific management to the home in order to apply capitalist social relations to the household. In other words, rather than leave household work procedures and timing to numerous individual women, scientific management strove for uniform standards of cleanliness and quality, time and energy-saving efficiencies, and the adoption of new appliances and/or techniques which "the experts" had pronounced as best.

One could argue that Frederick was a rather convenient agent of change for the forces of production, regardless of her personal motivations. Because family privacy and leisure for homemakers were deemed important at the turn of the century, scientific management not only represented a means for reproducing business relations within homes, it also provided a rationale for the consumption of labor saving consumer goods as well as prepared foods. (9, 16) In 1920, Frederick wrote:

> Today even the good housekeeper finds it profitable to buy many articles prepared in a "food factory," some clothing that is "ready made," and to avail herself of countless articles which make for comfort and sanitation which are produced commercially. (Quoted in 16, p 157. Emphasis added.)

The question of why homemakers should desire more leisure time was not left to the individual to answer. By reducing the time spent on the necessary "mechanics of living," women could: provide a stimulating, comforting, and educational home atmosphere; develop themselves as women and as human beings; and, devote time to being good neighbors, civic workers, and loyal citizens. The fact that Frederick and her like-minded colleagues did not consider paid employment an appropriate use of additional leisure suggests that such an arrangement would ensure that new generations of workers (and their wives) would be born and socialized in homes valuing efficiency in the economic sphere as well as private ownership of consumer goods. But such social relations would also produce contradictions, not the least of which was the eventual need for wives to earn supplementary wages in order to participate in the exchange of increasingly costly consumer goods and services. (5)

Another contradiction surfaced in the goals of the left wing of the household rationalizing movement. This group, led by Charlotte Perkins Gilman, advocated the industrialization of housework. In one sense, the abdication of household work to the commercial sphere can be seen as the ultimate stage of efficiency in that there would be a division of labor, no wasteful duplication of capital equipment, and a profit motive.

However, Gilman's work was not based on capitalist ideology but on feminism and a belief in evolutionary progress. This latter value was not equated with natural selection or a laissez faire doctrine, but rather with society consciously directing its evolutionary development. Her object of progress was to be the emancipation of women as she wrote in 1898, "We are the only animal species in which the female depends on the male for food, the only animal species in which the sex-relation is also an economic relation." (Quoted in 16, p 158)

The main reason that Gilman's ideas were not considered socialistic or threatening had to do with the specific solutions she advocated. Rather than calling for the overthrow of capitalism, she recommended that women utilize its best features for their advancement as well as that of society. And, rather than communal feeding or cooperative housekeeping, Gilman argued for families separately patronizing commercial sector goods and services whose production would eventually be totally removed from their homes. Thus, the means for accomplishing a seemingly radical goal would further help to institutionalize market consumption.

EDUCATING FOR MODERN FOOD BUYING

While the domestic education, scientific management, and feminist movements were rooted in disparate motivations for change, they all had a similar outcome for household food provision. Whether the representatives of these movements desired optimal buymanship, privatized ownership and use of household tools and appliances, or socialized means for sustaining human needs, they all sought to rationalize homes. This would serve as a foundation for an inevitable process whereby homemakers would become increasingly dependent both on market goods and services to manage their homes and on expert advisors to teach them what was modern, best, or efficient. This is especially evident in food products.

Because new food products are introduced so frequently today and because each so-called "improvement" represents a minute increment of change, we are generally unaware of the larger change process in our dietary habits. Indeed, the attempts by food manufacturers to entice consumers to try and adopt new products are familiar and accepted parts of our mass culture and are seemingly innocuous. I have found that by looking back over a longer period of time, a different impression of such changes emerges. For example, according to historical accounts of changes related to new food processes, manufacturers of white flour and its products as well as sugar refiners undertook large scale campaigns to convince homemakers that "white" was superior. This quality rating was applied to various criteria such as keeping quality, product results, prestige value, and safety. In reality, the sale of white flour products and white sugar meant greater profitability so it was in processors' economic interests to convince consumers of the rationality of change. Consider the advertising campaign launched by sugar refiners around 1898 in which a highly magnified illustration of an insect was described as:

> . . . a formidably organized, exceedingly lively and decidedly ugly little animal. . . . The number of these creatures found in raw sugar is exceedingly great and in no instance is raw sugar quite free from either the insects or their eggs. Brown sugar should never be used. . . . It is fortunate to note, however, that these terrible creatures do not occur in refined sugar of any quality. (Quoted in 14, p 232. Emphasis added)

Other examples of industry originated performance criteria are plentiful but limited space precludes their inclusion here. They are generally depicted as the advantageous and unarguable consequences of scientific progress. And change in the name of science would eventually become very difficult to argue with due to its ascendance in our culture. For example, although food faddism dates back several centuries, the phenomenon of experts advising consumers was greatly impelled by the "liberating" force of science.

> Science had once attacked entrenched authority, but the new scientific expert became an authority himself. His business was not to seek out what is *true*, but to pronounce on what is *appropriate*. (8, p 26)

White sugar and more importantly, white flour were eventually adopted by all classes of consumers. But it wouldn't be until World War II that flour and cereal products were voluntarily enriched by millers in response to the Federal government's war time enrichment program. Although I will concede that the adoption of enrichment standards did greatly improve the nutritional value of processed grain and was dependent on industry cooperation, it obviously benefitted producers as well. Prior to flour and grain enrichment, millers had expressed concern about the inelasticity of demand for food in general but a decline in flour and cereal consumption. By proposing what was a new performance criterion for the milling and baking industries at that time--nutritional value--firms managed to provide new opportunities for sales growth. At the same time, they defused criticisms about the wholesomeness of their products and apparently won over nutritionists and home economists who had been critics.

A major reason that the enrichment and fortification of processed foods have been perceived as progressive has to do with what Joan Dye Gussow, a contemporary nutritionist, labels the scientification of food. According to Gussow, the process began with the early domestic science professionals led by Ellen Swallow Richards.

> And those of us who should have been watching over the food supply were so concerned lest we be considered unscientific women, that we acquiesced in the process whereby

> the value of food was reduced to the value of nutrients. And in an ever accelerating process we allowed ourselves to be moved from foods to food groups to nutrients to nutrient labeling (since after all there were so many foods that didn't fit the food groups) to the notion that we must teach not foods, but nutrients. (10,p 4)

It is Gussow's conclusion, then, that the professions most concerned with consumer/nutrition issues have played into the hands of manufacturers by "trivializing" food. As long as highly processed foods are advertised and labeled as enriched, fortified, or merely retaining some naturally occurring nutrients, they will be acceptable and assumed to be wholesome. It is for this reason that: chocolate milk is considered a substitute for regular milk; fortified fruit drinks replace fruit juices; fortified ready-to-eat cereals are seen as superior to "old fashioned" cooked cereals; and, fortified snack cakes or even candy bars are justified on the basis that they are not just empty calories. The problem with this trivializing process and its outcomes is two-fold. First, when we rely on commercial producers, we lose control over and information about the composition of the food we eat. Second, for a number of reasons, commercially produced processed convenience and restaurant foods tend to be high in sodium, fat, and caloric sweeteners and low in fiber -- the very nutrients implicated in contemporary diseases. (4, 15)

What Was in it for the Change Agents?

An interesting question is how or why this trend, though resisted by many of the professionals today, was clearly supported in its early stages. Some of those change agents were direct emissaries of the producers and sellers, while others represented groups with liberal goals for modernization through science.

For example, in her analysis of the advance of nutrition science through entrepreneurial strategies, Aronson (2) argues that Wilbur Atwater and other applied researchers managed to define nutrition as a social problem by tying it to labor reform. The strategy was one which enhanced personal careers by opening new sources of funding for scientific research while also pioneering a new field. Aronson writes that during the last quarter of the nineteenth century:

> Perceiving themselves as a disinterested party, neither capital nor labor, the liberal economists and statisticians hoped to end class conflict by developing objective criteria for the adequacy of wages. . . At this point the questions of political economy and nutrition research coincided: what were the nutritional requirements for human subsistence? (2, p 477)

Specifically, the two claims made by Atwater were that optimal nutrition would increase workers' productivity and the application of sound nutritional principles would reduce worker expenditures for food. The result would be higher standards of living since the productivity would increase profits which could be shared between the classes and the lowered food expenditures would permit workers to divert wages to purchase other things, thus permitting market growth for more consumer goods. But the professionals who were to carry out the work of teaching wives the applications of nutrition research--how to shop economically--also had vested interests in the changing political economy of food. The social workers, home economists, and public school teachers were predominantly middle-class women, a segment of the population that had been displaced by the commercial expropriation of household production. Thus, they had leisure time; education and religious backgrounds which supported the application of science to improve life; and, problems of low or ambivalent prestige. (17)

As a result of the various campaigns to redirect the work of women, they were designated as responsible for the work of consuming rather than producing.

> Women, while like men producers in outside industry, have in addition three unique economic functions, first, as producers within the home in house-keeping and in family management, second, as controllers of retail demand in the spending of family and personal income, and third, as directors of the family's consumption. (1, p 41)

However, since they were new to the task and knew very little about raw materials, workmanship, and their effects, consumer education was one service the new "helping professionals" felt it was necessary to provide. "How to buy, then, is one of the newer subjects which education must teach as it is to society's advantage that the housewife buy intelligently." (1, p 42) Thus, women have been admonished to spend a good portion of their time comparison shopping and/or seeking and applying product information in order to make consumer sovereignty meaningful and effective.

It is interesting to note that while home economics has the reputation of teaching people to cook, John Hess, a former food editor of the New York Times, asserts that rather then teaching their clientele to prepare high quality food on their own, home economists have embraced processed convenience foods. (11) The professionals' problem with image (17) has probably had much to do with this trend. As long as home economists clung to teachings that valued household production, they were considered regressive and antifeminist. This was so because the do-it-yourself stance seemed to perpetuate traditional sex roles and stood in the way of rationalizing the home in its later stages. In sum, the facts that household production had acquired such negative social evaluation and convenience seemed such an obvious step forward in relieving tedious, repetitive work, made acceptance and advocacy of convenience foods by home economists perfectly understandable.

Once the emphasis has shifted from the decision between home and commercial production to the market arena as the source of all the available options, the means for household production were gradually lost. This is so for two reasons. As families do progressively less of their food preparation, there is less need for appropriate utensils. More importantly, knowledge about food handling techniques is gradually lost since there is less need and opportunity to pass it along to subsequent generations. An historical review of cookbooks bears this out in that instructions are amazingly elementary and condescending. (5) This loss of technique and experience has the effect of further enhancing prepared foods or mixes in that their end results are standard and predictable even though of a lower quality.

CONCLUSIONS

Dietary habits are complex as are the processes by which they change. By presenting the material in this paper I have not intended to convince readers company advertising and consumer educators have been wholly responsible for the poor quality of contemporary diets. Indeed, U.S. dietary patterns have never been exemplary. Furthermore, I believe that there is some validity to the consumer sovereignty theory. But before consumers could choose, they had to learn that role.

I have argued that a variety of change agents with assorted motivations assisted in the process of "manufacturing" consumers during the late nineteenth and early twentieth centuries. Whether those agents were paid spokesmen for food companies, entrepreneurial experts who tried to make names for themselves, liberals who espoused progress through science, or women who sought higher prestige through professionalism, the results were generally the same. That is, through persuasion and socialization, working class families joined the consumer society. They could enjoy a materially more comfortable life while serving as new consumers--who would eventually be joined by all members of our society -- abdicating their knowledge about and control over the food they ate. The result would lead to even greater dependency on commercial and industrial suppliers of food as well as on expert advisors who teach consumers how to choose wisely.

In recent years there has been considerable interest in the U.S. for fresher ingredients and food products made "from scratch". Although I favor such a movement, I also recognize its limits. Among those who have adopted the values for home made foods, time constraints severely limit the frequency of such production. And, as the movement is associated with gourmet foods, not all classes have been affected. If history teaches us anything, the movement will no doubt spread to more people in a democratic fashion. But all the while, producers and sellers will benefit from the new market opportunities whose outcomes they will carefully channel and control.

REFERENCES

1. Andrews, B.R., "The Home Woman as Buyer and Controller of Consumption," The Annals of the American Academy of Political and Social Science. May 1929, pp 41-48.

2. Aronson, N., "Nutrition as a Social Problem: A Case Study of Entrepreneurial Strategy in Science," Social Problems, June 1982, pp 474-487.

3. Braverman, H., Labor and Monopoly Capital: The Degradation of Work in the Twentieth Century. New York: Monthly Review Press, 1974.

4. Brewster, L. and M.F. Jacobson, The Changing American Diet. Washington, DC: Center for Science in the Public Interest, 1978.

5. Christner, A.M., "Scrutiny of the Bounty: The Poor Quality of the U.S. Diet Amidst Agricultural Plenty." Unpublished Ph.D. dissertation, University of Massachusetts, Amherst, 1983.

6. Cummings, R.O., The American and His Food, Rev.ed. Chicago: University of Chicago Press, 1941.

7. Dobb, M., Studies in the Development of Capitalism. New York: International Publishers, 1947.

8. Ehrenreich, B. and D. English, For Her Own Good: 150 Years of the Experts' Advice to Women. Garden City, NY: Anchor/Doubleday, 1978.

9. Ewen, S., Captains of Consciousness: Advertising and the Social Roots of the Consumer Culture. New York: McGraw-Hill, 1976.

10. Gussow, J.D., Growth, Truth and Responsibility: Food Is the Bottom Line. Greensboro, NC: The Institute of Nutrition of the University of North Carolina, 1980.

11. Hess, J.L. and K. Hess, The Taste of America. New York: Penguin Books, 1977.

12. Lasch, C., Haven in a Heartless World: The Family Besieged. New York: Basic Books, 1977.

13. Nevins, A. with F.E. Hill, Ford: The Times, the Man, the Company. New York: Scribner's, 1954.

14. Root, W. and R. deRochemont, Eating in America: A History. New York: William Morrow & Co., 1976.

15. Select Committee on Nutrition and Human Needs, U.S. Senate, Dietary Goals for the United States, 2nd ed. Washington, DC: U.S. Government Printing Office, 1977.

16. Strasser, S.M., "The Business of Housekeeping: The Ideology of the Household At the Turn of the Twentieth Century," *The Insurgent Sociologist*. Fall 1978, pp 147-163.

17. Vincenti, V.B., "Toward A Clearer Professional Identity," Journal of Home Economics. Fall 1982, pp 20-25.

CONSUMERS' STAKE IN FOOD AND AGRICULTURAL POLICIES

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ABSTRACT

Beyond the traditional concerns about an abundant, nutritious, and safe supply of food, consumers are impacted economically by food and agricultural policies. Although the real price of food has fallen, tax costs have risen. How various policies affect food prices and taxes is illustrated; costs of current policies are projected.

INTRODUCTION

The purpose of this paper is to explore the question, "What are consumers' economic interests in food and agricultural policy and how well are they served?" First, various consumer concerns with food and agricultural policies will be outlined. Next the economics of various agricultural subsidy programs will be presented with consumers' benefits and costs identified in each one. The paper will conclude with a brief discussion about the future nature of consumers' concern with the economic outcomes of food and agricultural policy.

CONSUMERS' CONCERNS WITH FOOD AND AGRICULTURAL POLICY

Food Price and Supply

The overall purpose of food and agricultural policies is to assure an adequate, safe supply of food for all consumers at a reasonable price, as long as that price allows a fair return to productive resources, mainly to farmers. This charge, to simultaneously serve the interests of consumers, protect the welfare of producers, and ensure an adequate food supply, has led to a hodge-podge of policies. As a group, they have sent mixed signals to producers, raised some food prices, and lowered others. A delicately balanced political coalition perpetuates a "jerry-built" package of policies that, ostensibly, can serve two masters.

Scholars of agricultural policy -- specifically farm policy -- have been exuding admonitions over the last few years about the need for fundamental changes. In spite of a plethora of research and rhetoric to the contrary, the 1985 Food Security Act made few changes in traditional agricultural programs. Consequently, the tax costs of farm programs will continue to be high. Excess supplies of basic commodities will continue. And, commodity trade groups will increase efforts to increase consumer demand for their particular type of food. Herein lies one of the basic dilemmas in food and agricultural policy. Incentives to increase production and efforts to sell more food domestically continue among a population whose largest dietary problem is obesity and where per capita food consumption is unlikely to increase.

Why do we, as a society, encourage and approve of agricultural policies that foster long-run excess supplies? Five reasons come to mind: (1) Excess supplies put downward pressure on food prices. Except during the 1940s and again in the 1970s, real food prices fell throughout this century. Over that time period, the cost of food relative to the purchasing power of an hour's work fell at an average rate of 1.5 percent per year [2, p. 12]. (2) Maintaining farm prices above the market equilibrium kept farm incomes relatively high and helped preserve a rural-farm lifestyle. (3) Excess supplies of basic food commodities (especially grains) are desirable as a tool of foreign relations. We use food to reward our friends, ensure our allies, or to punish our enemies. (4) The Malthusian hypothesis leads the United States to view itself as the bread basket of the world. Maintaining productive capacity and inventories of food that could be used to forestall an occasional famine somewhere in the world was (and is) considered a decent, humanitarian thing to do. (5) Supplies in excess of domestic demand were believed to be saleable on the export market. Indeed, agricultural commodities comprise about 19 percent of all U.S. exports. There has been a positive trade balance in agricultural products since 1960 and they have helped the United States to have a more favorable balance of payments than would otherwise be the case.

While many government farm programs have encouraged excess supplies of basic commodities (mainly food and feed grains, cotton, sugar, and milk), various other programs limit the quantity of specific foods that can be sold on the market. These policies tend to raise both farm and retail food prices. Restricting supply for the purpose of raising prices is clearly not in consumers' interest.

Tax Costs

Beyond the concern for low retail food prices consumers' have a stake in the tax costs of farm subsidies. Between 1981 and 1983 these costs quadrupled from $5.6 billion to $22.9 billion. They comprised about 2 percent of total federal expenditures, costing U.S. households an average of $178 each in 1982. They are estimated to average about $20 billion per year through 1989 and will comprise over 60 percent of net farm income by 1988 [16, pp. 23 and 30]. Not surprisingly, public concern about these costs is rising. Further questions are raised about the income distribution effects of farm subsidy payments since they are transferred from largely middle income households to upper income farmers. In 1985, 57 percent of the farm subsidies were distributed to the 17 percent of the farmers who had annual gross sales of over $100,000 and who earned 85 percent of all farm income [1].

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Other Food Policy Concerns

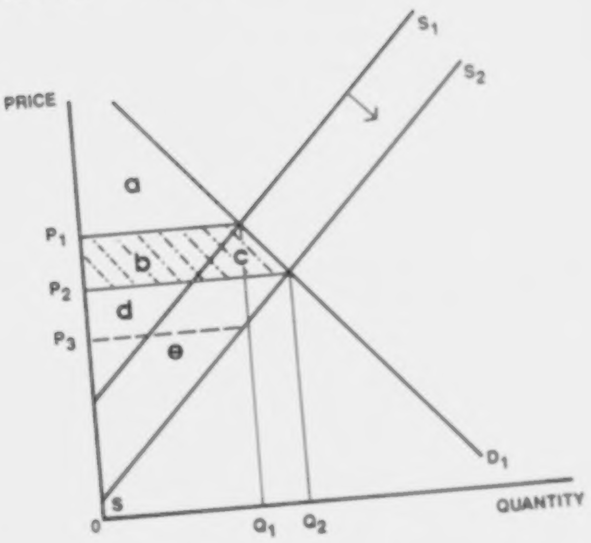
Consumers' concerns with food and agricultural policies that are largely independent of farm programs include quality, safety, variety, convenience, and information. Part of food quality and safety characteristics are nutritional and health standards which continue to change as new information becomes available. "Food policy," as it is known in this country, has focused primarily on ensuring a safe and nutritious food supply and on ensuring adequate nutrition to the poor. The latter emphasis may be more accurately identified as a "poverty policy" even though it was initiated and is administered by the U.S. Department of Agriculture. The tax cost of these programs ($18.1 billion in 1983 and 1984) is roughly equal to the costs of subsidizing farm production ($18.2 billion averaged over 1983 and 1984). They can be justified (or not) on the same basis as other poverty programs but they should not be construed as food policies that impact heavily on the well-being of the majority of consumers. Consumers, as consumers, are concerned with a steady supply of high quality, safe food at the lowest possible cost.

ECONOMIC OUTCOMES OF AGRICULTURAL POLICIES

In order to trace the predicted changes in consumers' welfare that emanate from government policies to support agricultural production and provide income security to farmers, one needs to begin with the Hatch Act of 1887 that set up a series of federally funded, agricultural experiment stations to conduct agricultural research in Land Grant Colleges and Universities across the country. Extension programs were added by the Smith-Lever Act of 1914. Publicly funded agricultural research and extension resulted in technological innovations and management skills that lowered the production costs and improved the efficiency of agriculture. In addition to a more abundant food supply at lower real costs to consumers, these productivity gains released resources from agriculture so they could be used to produce other consumer goods and services. The return on public dollars invested in agricultural research in the United States is estimated to be between 36 and 42 percent or about three times the before tax rate of return obtained from investments in manufacturing [11].

Assuming a fully informed, competitive market, the economic impact of improved technology can be illustrated most simply by an outward shift of the supply curve. In Figure 1, the supply curve S_1 shifts to S_2 when the costs (P_1) of producing the original quantity, (Q_1), are lowered to (P_3). The equilibrium (or market clearing) price falls to P_2 and the quantity bought and sold increases to Q_2. Consumers gain by being able to buy more food at a lower price. Consumer welfare (as measured by changes in consumer surplus)[2] increases by the crosshatched areas b + c. Area b is transferred from producers to consumers but producers enjoy a net gain in producer surplus equivalent to area e − b. The net gain to society from lower prices induced by higher productivity is equivalent to area c + e where c goes to consumers and e to producers. Improved technology in the form of hybrid seeds, pesticides, feed supplements, and new genetic discoveries yet to come, continue to put this type of downward pressure on the market clearing price of food. The best evidence of this phenomenon in the United States is the declining average portion of income necessary to purchase food -- from about 35 percent in 1940 to 14.5 percent in 1985. This is even more impressive if one realizes that over that time the portion of food expenditures going for marketing and convenient services rose from 50 percent to 73 percent.

FIGURE 1. Technology Increased Supply



In the case of some food commodities, Figure 1 would be more realistically illustrated by Figure 2 where demand is not very price elastic (about .32) and short-run supply is perfectly inelastic. As S_1 goes to S_2, the price drops rapidly. If S_2 were to move out to S_3, supply would move beyond demand at any reasonable price. This extreme case is a conceivable scenario if consumers' demand for some foods becomes satiated and productivity increases continue.

The next step in agricultural policy came when the depressed market price (P_2 in Figure 1 and 2) was found to be inadequate to cover production and marketing costs. One of the government programs designed to raise the price received by farmers

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[2] Consumer surplus is the area above the price and below the demand curve. It represents the monetary value of utility received above that which is paid for in the marketplace.

FIGURE 2. Short-Run Supply and Demand For Agricultural Commodities

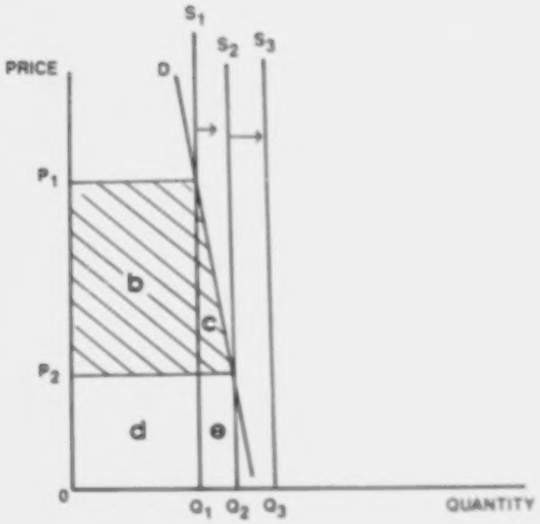
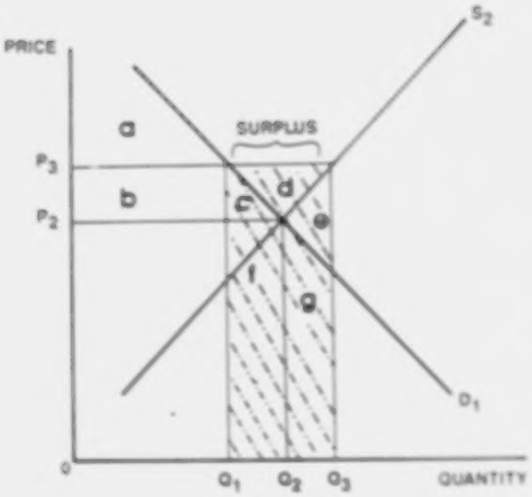


FIGURE 3. Commodity Price Supports



was support prices, illustrated by Figure 3. Assume price P_2 is unacceptably low for farmers. The government raises the market price to P_3. Farmers respond by producing more (Q_3) and consumers respond by buying less (Q_1). A surplus equal to Q_3-Q_1 now exists and the government must decide what to do with it. Typically, the government purchases the excess, stores it, and eventually distributes it through nonmarket channels. Domestically, it could be distributed through commodity distribution or school lunch programs. Internationally, it could be donated to hungry people in developing nations principally through PL480 programs.[3] The commodity support price, (P_3), reduces consumers' well-being by decreasing consumer surplus equal to areas (b+c). Producers' surplus increases by areas (b+c+d); there is a net gain to producers equal to area d. The tax costs of this type of price support equals areas (c+d+e+f+g). Subtracting out area d (the net gain to producers) leaves area (c+e+f+g) as a net tax cost (welfare loss) not counting the costs of storage, handling, and distribution. If the government could sell the surplus commodities it had purchased at, for example price P_2, it could recapture areas (f+g+1/2e) and the net welfare loss would be areas (c+1/2e). Occasionally, government sales of surplus food are a self-defeating activity. If the buyers of government surplus commodities are reflected in the original demand curve (D_1) government sales compete with the private suppliers and the market price falls back towards P_2. Therefore, the government must seek "new markets" in which to sell surplus foods. Foreign countries with unexpected, but temporary, food shortages provide an opportunity for selling the excess supply from time to time. One such opportunity was largely responsible for this price policy falling into political disfavor, namely the 1972 Russian grain deal. Russia unexpectedly purchased 400 million bushels of wheat. In Figure 3, assume the sale of that wheat equaled Q_3-Q_1 and that the world price equaled P_2. The U.S. government ended up subsidizing the sale of that wheat by the equivalent of areas (c+d+1/2e), which equaled about $150 million. This means that U.S. taxpayers/consumers subsidized the Russian consumers by $150 million through the sale of grain at a price below the domestic price (P_3) [8, p. 221].

Although support price mechanisms like this have been largely replaced by other pricing schemes, current political pressures to institute export subsidies would have a similar effect. Other countries would purchase our food at world prices which are below our domestic prices and the government would pay the difference to the producer. Local consumers would transfer income to farmers and subsidize foreign consumers through lower priced food in foreign countries.

Government policies that hold farm prices above a market clearing price tend to increase supplies, reduce consumers' welfare, and increase government costs. Counter measures have been instituted to control the quantities of food produced or marketed. The economics of these measures are simple; the implementation has proven inordinately compli-

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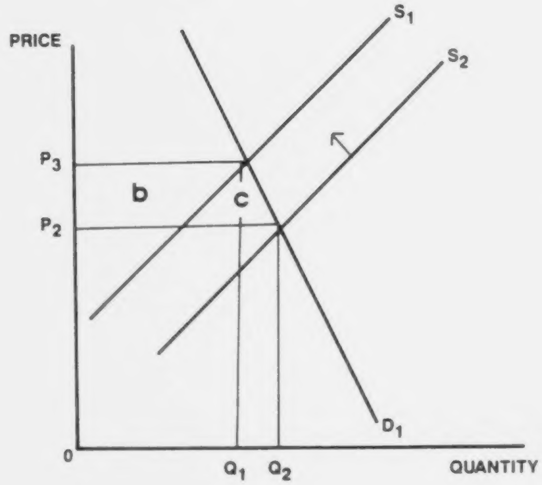
[3] PL480 refers to a U.S. subsidized sale of food to a developing country under one of three titles of the Agricultural Trade, Development, and Assistance Act of 1954. It is sometimes referred to as the "Food for Peace Program." (i) These sales extend long-term, low interest credit to the buying nation to be used to buy food from private U.S. suppliers and resell it to their consumers. (ii) The United States donates food for emergency needs and specific nutritional problems. (iii) Food is donated over several years to very poor countries who are undertaking specified development projects.

FIGURE 4. Production or Marketing Controls



cated and costly. The economics is illustrated in Figure 4. The idea is to shift the supply curve back to S_1 so that the market clearing price will rise to P_3 -- a price that would provide a fair return to farmers. The loss of consumer surplus under this scheme is the same as in Figure 3 (area b+c) but the gain in producer surplus is limited to area b. Area c represents the net welfare loss to society. If S_1 could be insured by fiat or by voluntary action there would be no tax costs. Schemes to move S_2 back towards S_1 have, in fact, cost billions of public tax dollars and billions more in private assessments that producers impose on themselves.

The major schemes to reduce the excess supply of agricultural products have been acreage controls and marketing orders or agreements. Acreage controls involve direct payments to farmers for not planting crops on part of their land, such as the soil bank program of the 1950s and 1960s. In 1986 similar programs are called acreage reduction and conservation acreage reserve. Acreage reduction schemes have been largely unsuccessful for decreasing supply. Typically the least productive land is idled and farmers increase the yields on their remaining land through a greater use of fertilizer, water, and other technology. To the extent that acreage controls are successful they reduce consumers' welfare, lead to decreased agricultural wages, labor supply, and output but increase returns on land in both the agricultural and manufacturing sectors [12].

Marketing orders or agreements are individually designed for specific food commodities and usually restrict the quantity of that food that can be sold in the market. The costs of enforcing marketing orders are borne largely by the producers but their self-imposed taxes, quotas, and standards receive the force of law. It amounts to a government sanctioned and enforced cartel of producers of specific agricultural commodities. Marketing orders have been a relatively effective tool for increasing prices and for controlling supply -- an explicit feature of about one-fifth of the federally operated marketing orders.[4] Consumers benefit from marketing orders, it is argued, because they enforce consistently high quality standards on the products sold. In some cases they help to ensure a year-round supply of otherwise seasonal foods. In an affluent society consumers may be willing to pay more for higher quality food but it does not negate the fact that, in most cases, more of these foods could be marketed at lower prices.

A more "market-oriented" agricultural policy was called for in the 1973 Agricultural and Consumer Protection Act. It is still the buzz word for policy reform. The pricing scheme to come out of the 1973 Act allowed lower market prices for consumers while guaranteeing a higher (fair) price to farmers. In Figure 5, P_3 (the old support price) is now called a target price. It is the price farmers will receive for their products as long as they sign up for the program.[5] This scheme as adopted for food and feed grains, cotton, and wool covered about 36 percent of the total value of all domestic agricultural production in 1983. If the market price rose above the target price, then the target price would become irrelevant. The market price is usually determined as the price consumers are willing to pay for the quantity supplied (Q_M in Figure 5). The difference between what consumers pay (P_M) and the price participating farmers were guaranteed (P_3) is made up by the government through a "deficiency payment" equal to the crosshatched area of Figure 5. Under this program, consumers' welfare is increased in the marketplace by areas (b+c) and producers' welfare is increased by areas (a+d). The tax costs equal the areas (a+b+c+d+e) with area e representing the net social cost of this scheme.

Direct cash payments to farms, most of which were for deficiency payments, amounted to \$9.3 billion and \$8.4 billion in 1983 and 1984, respectively. In those years, deficiency payments comprised 62 and 24 percent of all net farm income, respectively. It is politically very difficult to lower target prices. The 1985 Food Security Act froze them at their 1985 levels for two years. Direct farm payments for crops are therefore projected to be \$10.7, \$14.2, and \$15 billion in 1986, 1987, and 1988, respectively [16, p. 21]. As long as the target price is above the equilibrium price (P_2) it encourages excess production which pushes

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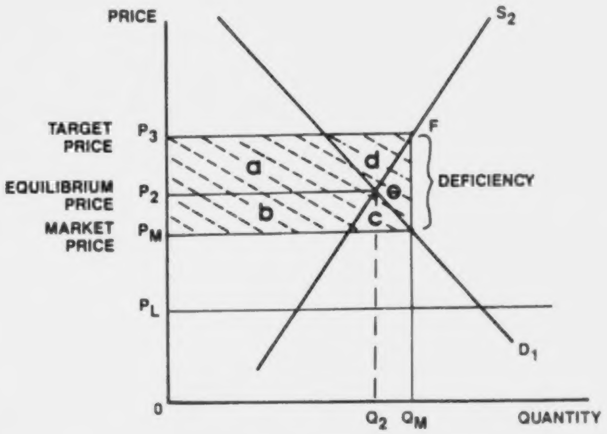
[4] In 1981 there were 47 federal marketing orders for fruits, vegetables, and specialty crops. These accounted for about 8 percent of total farm receipts for crops. In addition, there are marketing agreements for peanuts, both federal and state milk marketing orders, and miscellaneous other state operated marketing orders [14].

[5] Signing up for the program entails a promise to idle a specified portion of land. Participants become eligible for government production loans but are not obligated to take them.

FIGURE 5. Target Price/Deficiency Payments



down the market price and increases deficiency payments. The major difference between this target price program and the support price program in Figure 3 is that, with target prices, the market price can fall encouraging consumers (both foreign and domestic) to buy up the excess supply rather than the government having to purchase it. Consumers' market price of food is lower than with support prices, but the tax costs can be very high. Other consequences of the target price/deficiency payment program include a tendency for wages and the labor supply to be relatively high in agriculture compared to other sectors and for the returns to agricultural land to increase. The results increase agricultural production at the expense of other consumer goods and services [12].

There is a limit to how far the market price can fall in the target price/deficiency payment scheme. The floor on the price is known as the "loan rate" (P_L in Figure 5). The loan rate is the amount of money per unit of production that a participating farmer can borrow to cover annual production costs using future crops as collateral for the loan. If the market price of the crops falls below P_L, the farmer turns the crops over to the government and does not have to repay the loan. The farmer also receives a deficiency payment of $(P_3-P_L)Q_M$ for the quantity of crops turned over to the government. In this case consumers loose all the consumer surplus because nothing is purchased in the market and the tax costs would equal the rectangle (OP_3fQ_M) in Figure 5. In reality P_M rarely falls below P_L, but the closer together they are, the higher are the deficiency payments and, therefore, the tax costs. Recently the price of at least two major crops covered by this type program, corn and wheat, are riding on the loan rate.

As illustrated above, consumers' benefits and costs of government schemes to juggle prices and quantities of agricultural supplies are mixed. Different foods are subject to different programs and quantities supplied and market prices vary from year to year. It has been estimated that consumers pay about $9 billion per year more for food in the market place due to various government programs that restrict supply and/or raise the market price [4]. This is a number subject to much variation over time and over estimating techniques and model assumptions. The bulk of the tax costs go for deficiency payments to farmers of grains (corn, sorghum, barley, wheat, and rice), cotton, and wool. In 1985, $8 billion was spent for these payments. Without target prices and deficiency payments, the supply of these products would eventually fall and the market clearing price should be restored at P_2 in Figure 5. Estimates show that if this were to happen, the prices of basic agricultural commodities would fall 15 to 20 percent while consumers' price of meats (beef, pork, and poultry) would decrease only slightly, about 3 percent [7, pp. 54-55]. Estimates of future retail prices of meat under different policy scenarios show that for beef and pork there is little difference between the current program with target prices and a more "market oriented" option without target prices but retaining loan rates and acreage controls that would set a price floor.

Under the 1985 law, retail beef prices are projected to rise about 8 percent in 1987 and fall back 8 percent in 1988. Chicken and pork prices are projected to fall about 18 percent by 1988 [16, p. 16]. Similar estimates are not currently available for other types of food but meat comprises about 19 percent of expenditures for food eaten at home. In 1985, United States consumers spent an average of $326 per capita for meat and poultry. An 18 percent decrease in chicken and pork prices would lead to a per capita expenditure of $302 by 1988. However, if consumption patterns continue to shift away from beef and towards chicken and pork, the total per capita expenditure on meats are estimated to increase by about 1.5 percent to $331 in 1988 [16, p. 16]. Declining prices of grains tend to hold down consumers' food costs even though their tax costs may remain high.

POLITICS OF FOOD AND AGRICULTURAL POLICY

Producers of individual commodities such as milk, grain, or beef have been able to organize and to effectively use political pressure to ensure government support for the price of their products. Consequently, farm prices have been supported at levels that yield a fair return on investment for the efficient farmer. As long as supporting farm prices and incomes did not result in excessive government costs or objectionably high food prices, consumers were not politically concerned with these programs. However, in 1972 when meat prices rose 25 percent in one year, consumers began to pay more attention to farm policies and their expected effects on food prices.

The direct (tax) costs are likely to dominate the political rhetoric and may well turn out to be both the larger of the costs and the greater of concerns to consumers. The current financial crisis in much of the agricultural sector will hasten the trend towards fewer and larger farms. Continuing to transfer income from middle-income consumers to relatively wealthy farmers will not make political or economic sense in the long run. Whereas, changes in the price of farm commodities impacts on less than 5 percent of the average consumer's expenditures in the market, higher food prices leads to higher tax payments.[6] As food costs rise, the tax costs of all poverty and welfare programs rise because the definition of poverty and, therefore, the eligibility for most transfer payments is based on the cost of USDA's "low cost diet". As food prices rise the cost of this diet rises, and the tax cost of poverty programs goes up.

Economists have long been writing about and analyzing the impacts of agricultural policies on consumer food prices and consumer welfare. A mere sampling of these studies are included in the reference list [3,4,5,6,9,10,15]. Consumer activists, on the other hand, have only recently become interested. The need for specific calculations of consumers' economic costs and benefits to food and agricultural policies is growing.

REFERENCES

1. Ahearn, Mary, Johnson, James D., and Strickland, Roger. "Farm Income and the Magnitude of Income from Commodity and Non-Commodity Sources." American Journal of Agricultural Economics 67(1985):1087-1094.

2. Edwards, Clark. U.S. Agriculture's Potential to Supply World Food Markets. USDA, ERS, Agricultural Economic Report No. 539, 1985.

3. Heien, D. "The Cost of the U.S. Dairy Price Support Program." The Review of Economics and Statistics 59(1977):1-8.

4. Heien, D. "Food and Consumer Dimensions of Agricultural Policy." In Consumer Demand and Welfare: Implications for Food and Agricultural Policy, (ed.) Jean Kinsey, University of Minnesota Experiment Station Item No. AD-SB-2718, North Central Regional Publication No. 311 (March 1986):9-14.

5. Houck, James P. "Some Economic Aspects of Agricultural Regulation and Stability." American Journal of Agricultural Economics (December 1974):1113-1124.

6. Houthakker, H. "Do We Need a National Food Policy." American Journal of Agricultural Economics 58(1976):259-269.

7. Johnson, S.R., Womack, Abner W., Meyers, Wm.H., Young II, Robert E., and Brandt, Jon. "Options for the 1985 Farm Bill: An Analysis and Evaluation." Food and Agricultural Policy Research Institute, University of Missouri-Columbia and Iowa State University, FAPRI Report No. 1-85.

8. Knutson, Ronald D., Penn, J.B., and Boehm, Wm.T. Agricultural and Food Policy. Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1983.

9. Paarlberg, D. "Tarnished Gold: U.S. Farm Commodity Programs After 50 Years." Food Policy (February 1984):6-10.

10. Padberg, D.I. "Consumer Protection in Modern Industrialized Food Systems." American Journal of Agricultural Economics 52(1970):821-830.

11. Peterson, Willis. "Returns to Investment in Agricultural Research." Staff Paper P78-2, Department of Agricultural and Applied Economics, University of Minnesota, February 1982.

12. Rodgers, Joan. "Price Support Programs in an Open Economy: A General Equilibrium Analysis." Staff Paper P85-8, Department of Agricultural and Applied Economics, University of Minnesota, February 1985.

13. U.S. Department of Agriculture. Food and Nutrient Intakes of Individuals in One-Day, Low-Income Households, November 1977-March 1978. NFCS 1977-78 Preliminary Report No. 11.

14. U.S. Department of Agriculture. A Review of Federal Marketing Orders for Fruits, Vegetables, and Specialty Crops: Economic Efficiency and Welfare Implications. AMS, Agricultural Economic Report No. 477, 1981.

15. Waugh, F.V. "Does the Consumer Benefit from Price Instability?" Quarterly Journal of Economics 58(1944):602-614.

16. Womack, Abner W., Young II, Robert E., Meyers, Wm.H., and Johnson, S.R. "Analysis of the Food Security Act of 1985." Food and Agricultural Policy Research Institute, University of Missouri-Columbia and Iowa State University, FAPRI Report No. 1-86, February 1986.

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[6] On average, consumers spend 15 percent of income on food but only 27 percent of that pays for the farm commodity (food) portion of the product purchased (15 x .27 = 4.05).

FOOD SAFETY POLICY ANALYSIS: ANALYTICAL METHODS

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ABSTRACT

Four methodologies for evaluating consumer protection food safety regulation are explored: benefit cost, risk assessment, cost effectiveness and program impact analysis. Strengths and limitations including utility for decision makers are discussed. Challenged to integrate data on risks, efficacy, economic costs and benefits to promote acceptable safety, decision makers require appropriate analytical work.

Product safety is an important goal for the food system. Consumer and producer information problems and many externality/public goods qualities of food safety result in public sector efforts to regulate or actually produce acceptable levels of safety.

Legislative, administrative and judicial branches of government formulate, implement, modify, and review food safety policy over time. Two agencies, the Food and Drug Administration and the U.S. Department of Agriculture exercise principle administrative and regulatory responsibility for food safety policy in accordance with established legislation. (The EPA also has a role in regulating pesticide residues.) These agencies use a variety of policy tools. For the sake of simplicity, administrative policy tools can be summarized (8):

1) establishing and enforcing product performance standards (actions may range from a product ban if standards cannot be met to enforcing chemical residue tolerance levels)

2) establishing and enforcing process standards (e.g. current good manufacturing practices, or requirements of best available technology)

3) requiring, supporting or providing information (research, education, public interest announcements, warnings, labels)

In the early 1980s, industry expressed widespread and vocal dissatisfaction with a broad spectrum of protective regulations designed to promote health, safety and environmental quality in the U.S. Dissatisfaction was initially exacerbated by general inflation and recession, now by deficits. Attention focused on the economic and the psychic costs of regulation, to industry and it was claimed, ultimately, to consumers.

A nearly simultaneous development in the last few years has been the rapid advance in toxicological and analytical capacities to detect chemical contaminants and other sources of risk at near zero levels in the food system (1). In many cases scientific and economic incentives appear opposed, particularly as they affect regulators.

The upshot of these developments for regulators has been increasing pressure, if not budgetary support, to rationalize or justify proposed agency "protective" actions on the basis of systematic, economic analysis.

With this assessment in mind, the first section of this paper outlines some of the major analytical tools available for food safety policy analysis. They vary in terms of analytical benefits, costs and risks. The second section discusses factors which constrain the usefulness of analytical techniques for policy makers.

ANALYTICAL METHODS FOR ASSESSING IMPACTS OF SAFETY REGULATION

Literature regarding safety assessment in general, and food safety regulation, in particular has proliferated in recent years (2,3,4,18). Work of the Food Safety Council is noteworthy. Other recent works outline a variety of frameworks for evaluating social policy of the type designated protective regulation (10,18). This paper discusses four general frameworks.

Benefit-Cost Analysis

Application of economic theory to public program analysis over the years has resulted in formal techniques of benefit-cost analysis. Ideally, economists evaluate the benefits of a public program through assessment of what consumers are willing to pay for the program. Costs of the program represent all resources devoted to the program evaluated at their opportunity costs.

In the words of a standard text, economic benefit-cost analysis is a technique for estimating the "total return or productivity or profitability to the whole society or economy of all the resources committed to the project regardless of who in the society contributes them and regardless of who in the society receives the benefits" (6).

Haveman and Wiesbrod (7) note that benefits can only be identified and evaluated with reference to an objective function; the goals of a program serve as the necessary starting point for conceptualization of benefits. Project goals generally fall within two broad categories: improvement of allocative efficiency (seeking an increase in the net value of output through a redistribution of resources); and improvement of equity (redistributing existing resources in order to increase the welfare of particular groups). Schmid (15) cautions that while social benefit-cost analysis attempts to draw this key distinction, care should be exercised to reveal the normative nature of both objectives. Analysis of most public programs reveals program objectives and weights that vary among decision-makers. Analysts should consequently specify critical objectives, participant interests and performance impacts in order to assess program performance.

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Classical and neoclassical utility theory from Marshall, Hicks and others furnishes the conceptual basis for measuring an individual consumer's demand for a product. The theory develops concepts of consumer's surplus (and the approximate parallel, producer's surplus) as the difference between a prevailing uniform market price for a good or service and the price a consumer would be willing to pay to purchase consecutive units of the good in the absence of a uniform price.

If the analysis of utility and demand remains confined to the individual, under ceteris paribus conditions, and particularly if the good or service in question is free of characteristics associated with public goods, the concept of surplus is relatively straightforward. Net benefits of a project which either alters an existing product's price or provides a new product can be defined in terms of the net change in the area beneath a demand curve and above the market price line. Samuelson states, "At the level of the individual consumer, cost-benefit welfare analysis can be performed rigorously and unapologetically by means of consumer's surplus" (14).

The entire business of welfare analysis suffers a quantum leap in complexity--not to mention controversy--when policy analysis aggregates individuals into a society. One wishes to do this in order to say something systematic about the net economic impacts of public projects. Particularly intractable is the conceptualization and empirical estimation of demand at both individual and aggregate levels for a broad class of "goods" such as food safety not effectively supplied in a market. These goods possess one of a variety of "public goods characteristics." In addition, uncertainty associated with food safety poses problems for consumers, producers, and policy makers. The upshot of all this for food safety policy analysis is that the composite theory of aggregate demand for public goods becomes a very tentatively balanced high rise house of cards.

The theoretical and empirical problems tied up in benefit-cost methodology (as well as the underlying theory of social welfare) imply that while elements of the theory of demand for "goods" such as food safety provide constructs of heuristic value, their applied value in attempting to estimate benefits of public food safety programs falls far short of theoretical promise.

Information problems--inherent uncertainty and high information costs--seriously limit the utility of standard willingness-to-pay conceptual measures of consumer surplus and therefore benefits from food safety programs or projects. Information problems are summarized for the individual consumer in a couple of questions: What is the personal risk now and later of consuming a contaminant? What should be paid to reduce this risk?

Consumer willingness-to-pay for a given reduction in risk depends upon individual patterns of risk-aversity, the price of risk reduction, and the complement of alternative utility-producing goods and services. Included are alternative measures to reduce risk (or increase health).

If one has market data indicative of aggregate demand for "food safety" and, if one can identify effects of a public policy upon the price or availability of the good "food safety," then welfare analysis seeks to evaluate changes in consumer and provider surplus.

Empirical problems in obtaining estimates of willingness-to-pay are summarized by Freeman (5) and Schmid (15), along with possible uses of market data. One approach, based on the assumption of weak complementarity between an environmental good Q and a private good X_i in the consumer's underlying utility function, may offer the possibility of attributing changes in demand for X_i--when at least two distinct levels of Q have been available--to varying levels of Q. A critical requirement here, however, is consumer consciousness of the potential effects of varying levels of the environmental quality variable, a requirement not met in many food safety cases.

Recently, attempts have been made to link willingness-to-pay and human capital approaches in estimation of risk reduction benefits (9). Economists estimate that an individual consumer's willingness-to-pay to avoid expected death-related economic losses constitutes a lower bound for valuing risk to life. Some of these models specify a normative model based upon what a rational individual should be willing-to-pay to avoid financial losses associated with risks to life, assuming the individual is at least as risk-averse with respect to loss of life as to loss of financial assets.

While such normative models show promise within the limits of their assumptions (particularly regarding risk preferences) for expanding the use of benefit assessments for risk reducing food safety regulations, they still rely for validity on the availability of toxicological and other specific data.

Alternative Approaches to Conceptualization of Food Safety Benefits

While conventional economic theory bases demand conceptualization upon individual consumer preferences revealed by willingness-to-pay for a good or service, in practice consumer demand for food safety/public health services frequently cannot be determined in part due to uncertainty, high consumer information costs and other public goods characteristics of food safety.

A variety of attempts to circumvent these difficulties and enable the analyst to say something about the benefits of a public health program has entered the literature. The attempts employ two basic propositions: first, an ability-to-pay or human capital criterion is often substituted for willingness-to-pay; second, the notion of direct cost-savings or averted public health expenditures is counted as an additional measure of public health program benefits. Regarding the former, analysts frequently substitute calculations of changes in streams of income earnings attributable to a program for measures of consumer surplus. In such human capital approaches, positive changes in income streams are netted against program costs to yield a measure of the net benefits of a program.

This technique represents the use of an "ability-to-pay" criterion. As Freeman indicates, measures of willingness and ability to pay are not equivalent conceptually or empirically. Reliance upon income savings carries with it the problematic implicit value judgement that an individual's worth to society is equivalent to his income stream over time. Generally, reliance on income savings in public health program analysis as a measure of program benefits risks biasing results toward those programs which save the lives or reduce the diseases of those earning higher incomes in the marketplace. Hence, such a measure favors selection of a public health program aimed at protecting the affluent rather than the poor or those who do not produce for the marketplace. (Accordingly, the "congressional diseases," cancer and heart disease, would be favored over tuberculosis control, or programs to benefit unwed minority mothers (7)). Since the distribution of dangers from chemical contaminants in food is frequently unrelated to income distribution, this potential bias is probably negligible in many cases.

Ability to pay criteria make assumptions regarding consumer spending preferences which may be unwarranted. Schmid notes that the difference between willingness and ability to pay hinges substantially on the impact of uncertainty and information costs. When consumers are unaware of relative or absolute risks correspondent with various diseases, they make decisions which differ from those rational under more perfect information. They may be unwilling to pay for risk reduction in cases of uncertainty despite ability. Additional considerations involve individual differences in risk aversion. The ability to pay for a program does not reveal willingness. Willingness might not exist under various conditions of information and risk preferences (15).

Cost or Resource Savings

Another category of benefits consists of medical costs formerly expended but averted because of a public health program. Reparative expenditures for disease treatment are included here.

The accuracy of both cost savings and ability to pay calculations depends upon a knowledge of the dose-response curve operative in the population. This information is frequently lacking in food safety cases. Another difficulty with cost savings application to food safety regulations involves the extremely long latency period for some adverse effects, including most cancers.

Surveys and Non-market Alternatives to Willingness-to-pay

In the absence of market data, non-market methods of estimating willingness to pay are attempted. Many of these alternatives have their own limitations. Surveys and voting schemes contain problems relating to possible strategic behavior on the part of resondents, biases, and the lack of incentives to accurately answer survey questions. Despite the limitations, surveys sometimes provide some of the only information available. Advances have been made in survey methodology and analysis.

For the policy maker, effective use of such methods is sometimes difficult. In addition to the lack of adequate toxicological information, resources and approval for collecting survey data are frequently limited.

Economic Costs in Benefit Cost Analysis

The preceding sections discussed the theory of demand and benefit determination along with the potential for application to public food safety programs. Benefits were found to be of two major conceptual types: 1) an increase in public health, ideally (but often not practically) evaluated according to consumer willingness to pay; 2) a resource savings stemming from averted costs of morbidity or mortality (conceptually problematic but more manageable empirically.)

On the flip side of the ledger, economic costs associated with a public health or food safety regulatory program are categorized in terms of those resources invested in the program valued at their opportunity costs.

Dividing the world simply into consumers and producers, then each group can experience benefits and costs from a project. Benefits and costs to consumers are evaluated in benefit-cost analysis according to changes in consumer surplus. Benefits or costs to producers (an increase or decline in factor prices or opportunities) are measured by alterations in economic rent. Mishan notes that, in practice, an asymmetrical treatment of impacts is involved in the usual practice of accepting factor prices as given. He states:

> *This asymmetrical treatment is not wholly unwarranted in an economy where factor groupings are few, but where product groupings are many. A project that increases the output of a product or service may result in large changes in its price without appreciable effects on the relevant factor prices (12).*

When assumptions of unchanged factor prices are unwarranted, techniques of shadow pricing to approximate true factor opportunity costs can be used.[2]

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[2] In calculating net benefits, any difference between the real social cost of resources used and their market cost may be added to project benefits or subtracted from project costs.

In a formal benefit-cost analysis, opportunity costs of the project enter the economic accounting format through the discount rate. Choice of the relevant discount rate, particularly over a period of decades is problematic and frequently crucial to the magnitude of the measure attained. Haveman and Weisbrod state:

> *Note that in a fully employed economy, the primary benefits also are achieved at the cost of displacing some other project and its benefits. Such 'opportunity costs' must indeed be considered by the cost-benefit analyst. They enter in through the inclusion of an interest rate (cost of capital) and through the estimated cost of purchasing the resources required for the project--resources that must be bid away from competing uses . . . If all other things are held constant, a project which employs idle resources will yield greater net benefits than one which requires that resources be directed from some alternative activity (7).*

Currently, there is little agreement about how to treat the asymmetry in timing between project costs (important in the near term) and benefits that tend to be long term.

Risk Assessment

Risk assessment, or risk-risk analysis or benefit-risk analysis are variants or first cousins of benefit-cost analysis.[3] However, these techniques stop short of assigning economic values to various measures of risk or risk avoidance. Rather, analysis results in a schedule that couples: dose with response; health risk from exposure to a substance with health risk from nonexposure (e.g. nitrites); or say, monetary benefits from use of a substance in production and a measure of human disease incidence or avoidance.

Both demand and supply of risk assessment techniques (and analysts) have escalated in recent years, presumably reflecting heightened recognition of the necessity of accepting some risk in return for a variety of economic benefits and a reluctance to place explicit monetary values on human life and well-being.

In a widely read summary of important elements of risk analysis, Lowrance defines a set of terms: efficacy, risk, benefits, costs and safety (11). The first two, efficacy and risk, are physically measurable or probabilistically inferrable quantities. The efficacy of a product or process refers to technical efficiency in terms of input-output relationships. Risk pertains to the probability of certain causal relationships occurring between exposure to a source of hazard and potentially adverse effects of that exposure.[4] In both regards our techniques of measuring efficacy and risk are notably imperfect; however, they can be expressed as physical relationships in probabilistic terms preferably denoting range rather than point estimates of risk.

With benefits or costs, however, one enters the realm of economics by attempting to impute economic values to various levels of efficacy or risk. The previous section reviews economic conceptions of benefits and costs in some detail. One important distinction between risk and benefits and costs is that between positive and normative measures.[5]

Beyond the "scientific" determination of product efficacy or risk and the "economic" estimation of associated benefits and costs, one enters the realm of social judgement regarding safety. "Safety" can be defined as socially acceptable levels of risk. Determination of safety involves implicit or explicit balancing of many factors, some physical, some economic and others associated with societal values as to levels and types of risk that are reasonable.

Criteria of "reasonableness" emerge over time and relate intimately to social definitions of fairness. Dimensions of reasonableness of risk include: whether risk is assumed voluntarily (and with accurate knowledge of effects) or borne involuntarily; whether effects are serious or slight; borne by many or few; appear immediately or are delayed far into the future; whether exposure is essential or a luxury; whether alternatives to the exposure are available or not (11).

To summarize: risk analysis provides a valuable tool for identification of some of the foundation stones upon which economic and societal evaluations or trade-offs between product risk and efficacy must necessarily be made.[6] It should be understood, though, that risk analysis is usually highly uncertain and, resource requirements for conducting the necessary physical experiments are substantial.

Cost-Effectiveness Analysis

Cost-effectiveness analysis begins with a policy prescription and attempts to identify the least-cost means of achieving the prescribed end. For example, one might establish the goal of eliminating sulfa residues in swine and then evaluate alternative methods of achieving the reduction.

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[3] I'm distinguishing here between "risk analysis" used generally and techniques of "quantitative risk assessment" particularly aimed at extrapolating high-dose/small sample animal tests to low-dose human results.

[4] Four categories of essential questions contribute to assessment of risk: 1) define the conditions of exposure (who is exposed?, to what levels?); 2) identify adverse effects; 3) relate the exposure to effects; 4) estimate overall risk.

[5] All measures are normative fundamentally. Input-output formulations depend upon normative definition of "product" and "waste"; risk measures similarly depend upon estimations of "undesirable" hazard.

[6] For an informative discussion of information requirements for an ideal risk-benefit analysis, see van Ravenswaay and Hull (17).

Cost-effectiveness analysis, in effect, ignores the question of benefits, either absolute or relative. Again using the sulfa example, cost-effectiveness analysis does not attempt to estimate the value of achieving reduction of sulfa residues in terms of public health or the relative contribution to public health of a sulfa program vis-a-vis tuberculosis or alcoholism programs of equivalent cost.

Benefit-cost analysis, then, is preferred for informing broad choices between alternative policy programs. It is more complex to conduct than cost-effectiveness analysis, however, requiring information regarding benefits. In the measurement of public health impacts from food safety regulatory programs, many gaps exist in our understanding of the risk associated with exposure to chemical residues in foods, across the population and over time.

Impact Analysis

Impact analysis approaches the task of public program analysis from a slightly different, more objective perspective and employs a different framework than the methods outlined above.

Rather than attempting to net social costs or risks against benefits to determine changes in social welfare, impact analysis establishes causal links between a program's use of inputs, performance of activities, production of outputs, and ultimately, measurable effects.

Definition of program goals and objectives is critical in subsequent design of the program information structure. Objectives may be broadly or narrowly conceived. Emphasis is generally placed less upon the identification of program impacts upon global measures of welfare than on program effects related to specific program objectives (8). The approach is particularly useful to systematically account for various distributional impacts of concern to decision-makers. An expandable concept, program impact analysis can be modified to permit analysis of several policy options. Participant interests are stated along with performance variables corresponding to these interests. An analyst might identify economic costs and benefits to various participant groups associated with a range of food safety policies. Ranking on the basis of selected costs and benefits is possible. Research may identify behavioral incentives incorporated in various program designs in order to understand probable impacts upon firm and consumer decision-making. Behavioral incentives have ramifications for ultimate effectiveness, workability and impacts of programs. Uncertainty, organizational complexity and imperfect competition each color the economic decision context of food system participants. Satisficing behavior is the expected norm at each decision level.

Analysis of the impacts of food safety policies depends upon specification participant interests. Most chemical food safety problem situations include the following participant interests: interests in a chemical substance as product, as input, as contaminant and as policy problem. Mixed interests are possible. Participant interests in food safety regulatory policies, then, flow from economic interests in the regulated substance. Chemical product producers rationally evaluate and react to food safety policies on the basis of anticipated impacts on firm profitability; agricultural producers on the basis of impacts on production costs or product prices (plus impacts on firm operating autonomy); consumers on the basis of safety and cost; policy makers on the basis of cost-effectiveness and political acceptability.

Use of impact analysis in a systems framework can assist policy makers to identify alternative regulatory control points, control procedures, and predict probable firm and system response. Firm response to food safety policies directly influences the efficacy of the policy in achieving results intended to benefit consumers.

CONSTRAINTS AFFECTING SELECTION AND USE OF ANALYTICAL METHODS

Five sets of constraints influence selection and utility of analytical methodology: 1) executive orders; 2) statutory limitations; 3) information and conceptual limitations; 4) budgetary limitations, and 5) political realities

Executive Orders: Regulatory Impact Assessment

Executive orders issued by the current and two previous presidents have attempted to impose accountability for economic impacts of regulations on agencies. Hence, executive orders represent one set of constraints delimiting use of specific analytical tools. Executive orders have varied by analytical methods implied and decision rules required. President Ford required estimates of a policy's inflationary impact (E.O. 11821). President Carter required estimates of inflationary impacts plus a sort of cost-effectiveness evaluation (E.O. 12044); he mandated selection of the least costly policy alternative. Reagan (E.O. 12291) requires estimation of benefits in addition to costs, comparison of the two and use of a decision rule to maximize net social benefits (19).

Statutory Limitations

The decision context is directed by law for different categories of decisions. The Food Safety Council documents multiple uses of the word "safety" in food safety law. The Delaney Clause referring to food additives prohibits addition to food of substances shown to be carcinogenic. Under the law in this case, economic costs and benefits are not relevant.

Information and Conceptual Limitations

A third set of constraints limiting usefulness of some analytical techniques reflects the current state of the art in risk assessment, particularly risk associated with prolonged societal exposure to multiple low-level toxins in food. With regard to carcinogenesis, mutagenesis, teratogenesis, and genotoxicity, for example, most of the analytical techniques now used by physical scientists rely fundamentally upon plausible but highly uncertain and necessarily unproven extrapolations from bacterial screening tests or small sample high dose animal tests to human populations. Or, largely insensitive epidemiological studies are used. Assumptions are necessarily made: for example, that equivalent doses of a toxin (mg. toxin/kg. body weight/day) ingested by a mouse and a man will exert equivalent effects over the respective life spans (approximately two years for a mouse, 70 years for a man). This may or may not be true in any given instance. So at a very basic level in risk analysis, the degree of uncertainty is compelling.

Another required piece of information in assessing risk to a population, a sub-population or an individual is the degree of exposure to a hazard. If regulators are concerned about population exposure to a given contaminant in foods, they first need data on the foods likely to contain the contaminant (several may), and then the combinations and quantities of foods consumed. Food consumption surveys, based on dietary recall exist. Yet these are not entirely satisfactory for a number of reasons: the accuracy and completeness of people's recall is notoriously suspect; people are not aware of ingesting contaminants; contaminants are not uniformly distributed geographically; multiple contaminants may interact with uncertain effects; averages--average diet, average body weight, average susceptibility to risk, etc.--are not satisfactory in many cases, particularly if the intention is to protect the most sensitive members of society. Uncertainties at this level of determining exposure, then, also abound.

Another level of uncertainty influences the usefulness of certain analytical techniques: the consumer's demand for safety. In an economist's ideal world, consumers' valuation of "safety" or risk reduction would be measured through a market demonstration of willingness to pay for marginal units of risk reduction, (say, the amount consumers would pay to reduce the death rate by a specified amount). Problems with this were discussed above (12).

Budgetary Limitations

Budgetary limits in both the public and private sector obviously constrain the quality and quantity of safety or regulatory impact analysis sustainable. Ironically, the demand for analysis and budgetary limits appear to be growing in tandem. One result of this phenomenon in the public sector has been a slow-down in new protective regulations. Analytical demands on the private sector have the allocative impact of directing resources toward "defensive" research (justifying past R&D) rather than new innovation. The administration is currently supporting ways to expedite industry application for market approval in many cases. In other cases, agencies are not allocating funds to monitor markets.

To summarize a complex concern, the current economic climate is not promising of producing increased resources for data collection or analysis. It is a time, however, in which protective regulations including food safety regulations must be justified with more complete analysis than previously.

Political Limitations

Policy analysts conventionally agree that economic analysis or, by extension, risk analysis provides only one informational input for policymakers, and properly so. Other values and other priorities enter the picture. These factors, many of them political (and they may be internal or external to the agency), constrain the utility of analysis for decision-makers. It may not be the case that the analysis is not used; rather it may be weighted very lightly in relation to other factors.

A commonly cited example of political constraints to agency action is provided by the case of saccharin. Saccharin has been shown to be weakly carcinogenic in animal tests. Under the FFDCA, this fact should have resulted eventually in prohibition of the substance. (It was removed from the GRAS list in 1972, and a carcinogen cannot be approved as a food additive.)

Currently, however, Congress continues to permit use of saccharin in a variety of products when accompanied by warning labels. Realizing the political ramifications of a ban, FDA had delayed action long enough for Congress to act. Legislative action was taken in direct response to alarmed constituency groups fearful that this popular artificial sweetener would be withdrawn from the food supply with no substitute.

Conclusions

With respect to the problem of providing policy analysis to decisionmakers which is intellectually respectable and at the same time useful, a couple of observations can be made. By its nature, policy analysis in the area of safety research is fundamentally multidisciplinary. It must rely upon the best theory and experimental evidence available in biochemistry, toxicology, and a variety of physical sciences as well as economics. Policy analysts using these inputs must be fully cognizant that each discipline, along with analytical insights into the safety question, also contributes a level of uncertainty. The types and magnitude of uncertainty should be stated as part of the analysis whenever possible. In other words, decision-makers must be educated regarding the quality of the analysis and its potential biases.

Each of the analytical frameworks discussed above--cost benefit, cost-effectiveness, risk assessment and program impact analysis--has advantages and disadvantages for different purposes. While theoretically most complete from the standpoint of providing policy makers the opportunity to compare both benefits and costs of alternative programs, benefit-cost analysis in many instances requires substantially greater resources, both conceptually and data-wise than now exist in order to estimate benefits from the reduction of public health risks via food safety programs. Additionally, issues of the conceptually proper way to value human life remain, as do the problems inherent in reducing a multitude of distributional impacts to a single potentially misleading measure.

Given the difficulties of benefit estimation in the area of safety, the question arises whether it is preferrable to estimate economic costs associated with a program and compare these with reductions in risk or other qualitative measures of benefit. At this point it is provocative to consider Gresham's law of decision-making which, loosely put, is that quantified effects tend to dominate consideration (10). If this is indeed the case and the benefits of "protective" programs remain merely qualitative while quantitative costs abound, then the risks in not supplying credible estimates of benefits may swamp the virtues of prudence in this regard.

REFERENCES

1. Burbee, C.R. and Kramer, C.S. "Food Safety Issues for the Eighties: Their Implications for Agriculture" in Food Safety Issues for the Eighties: Their Implications for Agriculture Series. Michigan State University Cooperative Extension Service, East Lansing, MI., 1985.

2. Committee on the Scientific Basis of the Nation's Meat and Poultry Inspection Program. Meat and Poultry Inspection: The Scientific Basis of the Nation's Program. Food and Nutrition Board, Commission on Life Sciences, National Research Council, National Academy Press, Washington, D.C., 1985.

3. Dardis, R., et. al., "Risk-Benefit Analysis and the Determination of Acceptable Risk," Journal of Consumer Affairs, (Summer, 1983), Vol. 17, No. 1, pp. 38-54.

4. Food Safety Council, Principles and Processes for Making Food Safety Decisions. Washington, D.C. December, 1979.

5. Freeman, A.M., The Benefits of Environmental Improvement, The Johns Hopkins University Press, Baltimore, Resources for the Future, 1979.

6. Gittinger, J.P. Economic Analysis of Agricultural Projects. Published for the Economic Development Institute, International Bank for Reconstruction and Development, The Johns Hopkins University Press, Baltimore, 1972.

7. Haveman, R.H. and Wieshrod, B.A. "Defining Benefits of Public Programs: Some Guidance for Policy Analysts," Public Expenditure Policy Analysis. 2nd ed., Rand McNally College Pub., Chicago: 1977.

8. Kramer, C.S. "An Economic Analysis of Food Safety Regulation: The Case of Sulfa and the Swine Subsector," Unpublished Ph.D. Dissertation, Department of Agricultural Economics, Michigan State University, East Lansing, MI.

9. Landefeld, J.S.and Seskin, E.P. "The Economic Value of Life: Linking Theory to Practice." American Journal of Public Health, June, 1982, Vol. 72, No. 6.

10. Lave, L.B. The Strategy of Social Regulation. The Brookings Institution, Washington, D.C.: 1981.

11. Lowrance, W.W. Of Acceptable Risk: Science and the Determination of Safety. William Kaufmann, Los Altos, CA., 1976.

12. Mishan, E.J., Cost-Benefit Analysis, new and expanded ed., Praeger Pub., New York, 1976.

13. Roberts, H.R. Food Safety, John Wiley and Sons, New York, 1981.

14. Samuelson, P.A. Foundations of Economic Analysis. Harvard University Press, Cambridge, 1947.

15. Schmid, A.A. Political Economy of Public Investment. East Lansing, Michigan State University, East Lansing, MI., 1980.

16. Sporleder, T.L.; Kramer, C.S. and Epp, D.J. "Food Safety", in Armbruster et.al. (Eds.), Federal Marketing Programs in Agriculture: Issues and Options, Interstate Printers and Publishers, Danville, Illinois, 1983.

17. van Ravenswaay, E.O. "The Science-policy Interface in Regulatory Decision-making." Paper presented at the International Symposium on PCB's in the Great Lakes, Michigan State University, E. Lansing, MI., March 17, 1982.

18. Zeckhauser, Concepts for Measuring Risks and Benefits in Principles and Processes for Making Food Safety Decisions, Food Safety Council, Social and Economic Committee Report, Washington, D.C., 1979.

19. Zellner, J.A., "The New Regulatory Environment and the Food System," paper presented at the meetings of the Southern Agricultural Economics Association, Orlando, FL, 1982.

DISCUSSION: THE CONSUMER AND FOOD

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It is good to see food issues, beyond nutritional labeling, under discussion at ACCI. Food issues topics received a good deal of consideration in the early years of ACCI, and merit our continuing attention.

The three papers presented deal, in various ways, with the benefits we seek from our food system. One questions some of the benefits or goals we have pursued, another looks at ways to assess the effectiveness of the means we have used to pursue our health-safety goals and the third focuses on the distribution of the benefits and costs of our food and agriculture policies.

Ann Christner has presented an provocative interpretation of the causes of some of our food habit changes. Both business and consumer education are indicted for the shifts toward more highly processed food products which are less nutritious and often less aesthetically satisfying but offer the advantage of time-savings and convenience.

Her analysis suggests a degree of omniscience among the early 20th century power elite which may, or may not have existed. Christner argues that the use of time-saving processed products was promoted to increase the housewives' leisure. This would, in turn, serve to ensure that new generations would be born and socialized for productive roles. Such a strategy has a long-term pay-off. If business interests really had a strategy, why didn't they settle for one with a quicker pay-off? Women could have been encouraged to enter into the labor force. This would have depressed the average wage thus lowering production costs, but would still have served to increase household incomes and buying power.

Consumer education must, I think, accept part of the blame for the "scientification of food" and the shift from other evaluative criteria to give chief emphasis to nutrient content. This emphasis was encouraged by the feeling that whatever was based in science was modern, while aesthetic factors (which are either hard to measure or unmeasurable, depending on your point of view) have less scientific basis. I'm afraid our concern, in consumer education, with academic acceptance and respectability have pushed us toward too narrow a definition of food's benefits. Along with our fear of the aesthetic, we've been afraid of looking at product use. "Use" is linked to the teaching of preparation skills and clearly lacks respectability at many college-level institutions. The neglect of product use in consumer education has had a number of unfortunate effects, including the neglect of safety issues.

Christner's closing question is a challenging one--are we teaching people how to achieve quality lives or are we teaching marketplace survival? We have, I think, been trapped by defining the objectives for consumer education, too narrowly.

Jean Kinsey has examined the benefits and the costs to consumers and farmers of our present crazy-quilt of agricultural policies. It is difficult to begin to evaluate the success of these policies since we are, purposely, a bit vague about our policy objectives.

Our vagueness about objectives is particularly evident in the commodity distribution/food stamp program. What began as an effort to dispose of excess supplies without threatening market prices has evolved into a welfare program, not only for stamp recipients but also for food retailers and food processors as well as for farmers. Perhaps the chief benefit of the program for recipients is to ensure that they participate more fully in the American way of life and enjoy the same nutritionally sub-optimal diet as the rest of the population.

The food stamp program's proponents emphasize its nutritional benefits. If we were to use cost-effectiveness measures, these benefits are costly. It might be far more effective to subsidize only the consumption of dairy products, fruits and vegetables. Political considerations, of course, make this infeasible.

Over the years the label on the issues Kinsey dealt with has evolved from farm policy to agricultural policy to food policy. This change is an indication of the growing number of groups involved in policy formation and in sharing the benefits and costs of programs. The interest groups involved include not only farmers and consumers, but also input manufacturers and sellers and food processors and retailers. The farm supply and food trade interests obviously have a bias toward demand-increasing policies and are opposed to those which restrict production.

While excess stocks of ag commodities are a tax burden, they are not without benefits for consumers. They do help stabilize prices. Because of the price inelasticity of demand for ag commodities, prices would have been far less stable in recent years if we had not had large stocks on hand. Wheat growers, in fact, have fought programs which would create buffer stocks, because they would dampen price run-ups in years of short crops.

Carol Kramer deals with the problems of conceptualizing costs and benefits for regulatory purposes. Her paper reminds us of the necessity of identifying what we seek from a program before we can begin to evaluate it.

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Kramer sagely notes the inherent bias of cost-benefit methods of dealing with risk. It is relatively easy to identify costs, but benefits not only are difficult to specify, they're also difficult to measure. There is a chronic risk of leaving out entire categories of benefits because of faulty conceptualization. And how are we to deal with even stickier problems such as interaction effects? For example, if we are dealing with the benefits of controlling bacterial contamination, how are we to deal with the fact that it is more beneficial to the aged and those in poor health than others since they are more suspectible to its effects?

These papers are a challenge to us to think both more deeply and more broadly about what we want from our food system. It appears we will have to clarify our objectives before we can begin to adequately evaluate its successes and its failures.

ECONOMETRIC ESTIMATION OF DYNAMIC CONSUMER DEMAND

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ABSTRACT

Theories of the dynamics of consumption present important estimation problems. First, their exploratory nature results in many competing hypotheses. The capacity for distinguishing among these hypotheses is largely empirical. Thus, statistical testing is necessary in composite and nonnested models. Second, the structures include proxy variables, lagged variables, and complex disturbance covariance structures. Conventional econometrics can be applied to address these problems, and for the alternative models the appropriate estimators have much in common.

INTRODUCTION

The primary purpose of this paper is to examine estimation and inferential problems associated with various theoretical specifications of dynamic demand systems. There have been several recent dynamic generalizations of the traditional static model of consumer demand. For example, various schemes have been proposed for reflecting habits and persistence in consumption patterns (see, e.g., [12]). Models which allow for disequilibrium in the short-run and long-run structures that are consistent with traditional economic theory have been developed and estimated by Anderson and Blundell [1, 2]. Attfield and Browning [4] use a completely different approach than those mentioned above to test the rational expectations hypothesis in a life cycle context. Other extensions to demand theory relate to refinements in intertemporal consumer models (e.g., [7, 15]), incorporation of risk and uncertainty elements into demand specifications (e.g., [14]), testing for endogeneity of prices and income [3, 6], modeling the demand for durables [16], and incorporating advertising effects into demand systems (see, e.g., [11]).

The present paper assesses the complexities that the various dynamic models generate for estimation and hypothesis testing. Although dynamic demand specifications may be very different, the estimation problems presented by the expressions required to implement the models are frequently quite similar. Evaluating the restrictions implied by the various dynamic models of consumer behavior, however, may require nonnested testing procedures. These and related econometric problems associated with the models of consumer demand dynamics will be addressed in the subsequent sections of our paper.

DYNAMIC DEMAND SYSTEMS[3]

Persistence or Habits

Persistence or dynamics in consumption behavior can be represented structurally in terms of an economic hypothesis or by hypotheses not supported by the theory but introduced in the disturbances. The autocorrelation hypothesis is an example of the latter. The various habit persistence schemes are examples of the former. In the section on specific dynamic systems, a generalized dynamic specification integrating the two approaches will be developed in detail. However, since our emphasis is on estimation problems caused by dynamic consumer demand specifications, we will concentrate more on the econometric aspects than the theoretical underpinnings of the two approaches.

The estimation problems for dynamic models can be viewed as twofold. First, how can demand analysts discriminate between habit formation schemes that give rise to distributed lag models with lagged dependent (consumption) variables and static models with autoregressive errors, where the appropriately transformed model contains lagged dependent variables? Second, what is the proper estimation technique to use when lagged endogenous variables are present together with possible autoregressive-moving average (ARMA) disturbances? Solutions to these two related estimation and inference problems will be discussed in the sections on specific dynamic systems and estimation techniques.

Other Dynamic Complexities

Incorporating expectations into demand functions creates additional estimation problems. For instance, treating prices and income as endogenous variables present econometric difficulties associated with choices of admissible and efficient instruments. Attempting to model intertemporal trade-offs in consumer decisions produces theoretical complications as well, and the empirical models that tax available sample

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[3] We are using the term "dynamic" as commonly employed in the demand literature. A multiperiod discrete demand system is truly dynamic if current utility depends on both current and past consumption levels, i.e., the consumer's objective function can be expressed as

$$\max \sum_{t=1}^{T} f(x_t, X_{t-1}, t) \text{ (see, e.g., [13]).}$$

information. Dealing with risk and uncertainty about product quality, prices and income, introduce additional problems. All of these dynamic components introduce complexities in estimation, requirements for new and constructed variables, different types of sample data, extended models, etc. In the sections on estimation techniques and tests of restrictions we will show that although the theoretical or conceptual basis for the dynamic specifications may be very different, the estimation and inferential problems presented by these various aspects of the models are indeed rather similar.

SPECIFIC DYNAMIC SYSTEMS

To examine the econometric problems for dynamic consumer demand systems more rigorously, the generalized dynamic demand model of Anderson and Blundell [1, 2] was chosen as the pedagogical vehicle. This choice of the general modeling framework was made for two reasons. First, several commonly used demand models are nested, or special cases of this more general specification. Second, the model has a great deal of intuitive appeal. In the case of the latter, the specification allows for short-run deviations from an equilibrium, and the usual homogeneity and Slutsky symmetry restrictions are imposed only on a long-run structure embedded in the more general dynamic formulation.

The Anderson-Blundell model can be expressed as

$$\Delta w_t = A\Delta X_t - B(w_{t-1} - \pi X_{t-1}) + \varepsilon_t \qquad (1)$$

where Δ represents the first difference operator, w_t is a vector of budget shares, X_t is a vector of prices and income, ε_t is the disturbance vector and A and B are short-run coefficient matrices[4]. The error term ε_t is assumed to be independently and identically distributed in time. Since the budget shares sum to one, the variance-covariance matrix for the error term is singular. This creates an estimation problem that can be easily overcome by arbitrarily deleting an equation. If autocorrelation does not exist, the maximum likelihood estimators are invariant to the equation deleted [5]. If autocorrelation is present, then the model must be transformed in the usual manner to purge the correlation in the residuals. Then, applying maximum likelihood estimation techniques to the transformed model yields estimators that are invariant to the equation deleted.

In equation (1), the long-run or the steady state structure, $w_{t-1} - \pi X_{t-1}$, is embedded in the more general first order dynamic structure. For example, $w_t = \pi X_t$ might represent the almost ideal demand system of Deaton and Muellbauer [9]. The usual restrictions of demand theory are only applied in this component of the model. No restrictions, since they are appropriate for the consumer theory, only the long-term or steady state, are imposed on the more general short-run structure.

For convenience, the system in (1) can be equivalently written as

$$w_t = CX_t + DX_{t-1} + Ew_{t-1} + \varepsilon_t \qquad (2)$$

where B = (I-E), A = C and $\pi = B^{-1}(C + D)$. Several popular demand systems can be shown to be nested within the general dynamic model represented by equations (1) or (2). First, the static consumer demand model implies D = E = 0 in equation (2). Second, a static model with an autoregressive error process implies the restrictions D = EC in equation (2). Third, a partial adjustment model implies that D = 0 in expression (2). Each of these special cases of the general dynamic expression can be tested using, for example, a likelihood ratio procedure.

The system in equation (2), with the nth row of ΔX_t and π and corresponding elements of w_t and ε_t deleted because of the singularity problems due to the adding up restriction, will be the focus of attention in discussing estimation problems in dynamic demand systems. In the remainder of the discussion, it will be assumed that this technical condition, permitting the arbitrary deletion of the equation for the nth commodity holds.

ESTIMATION TECHNIQUES

Estimation Likelihood Estimation

If $\varepsilon_t \sim N(0, \Sigma)$ in equation (1), that is, if the error term is assumed to be normally, independently, and identically distributed in time with mean zero and contemporaneous covariance matrix Σ, then the likelihood function expressed for a sample of size T is

$$\begin{aligned} L = (2\pi)^{-nT/2} |\Sigma \times I_T|^{-T/2} \exp\{-1/2\ \Sigma\ [\Delta w_t \\ - A\Delta X_t + B\ (w_{t-1} - \pi X_{t-1})]\ (\Sigma \times I)^{-1} \\ [\Delta w_t - A\Delta X_t + B(w_{t-1} - \pi X_{t-1})]\}. \qquad (3) \end{aligned}$$

where the symbol x represents the Kronecker product. Maximizing expression (3) can be shown to be equivalent to minimizing the generalized residual variance, $|V'V|T^{-1}$ where V'V is the reduced form residual moment matrix (see e.g., [10]). Under general conditions the full information maximum likelihood (FIML) estimators obtained from maximizing expression (3) are consistent, asymptotically efficient and normally distributed. There also exist other estimation procedures such as three-stage least squares that are asymptotically efficient under normality and assuming no prior information on the covariance matrix of the structural disturbances [10].

Little is known about the small sampling properties of estimators of models of the form (1), hence FIML estimators are attractive since they possess desirable large sampling properties. In addition, FIML estimates are useful in computing tests of hypotheses using the likelihood ratio, Wald and other procedures. It should be noted that, while other estimators may possess the same asymptotic properties, their numerical values may differ significantly in small samples. A major difficulty with using FIML is the problem with achieving convergence for even moderate size demand systems. However, in relatively small dynamic demand systems utilizing a program such as SHAZAM developed by White, FIML estimators are easy to obtain subject to the restrictions imposed by the model and the consumer demand theory.

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[4] The system can be generalized to higher order differences, but for expository purposes we consider only the first order dynamic model.

In large dynamic demand systems, single-equation estimation methods can be used such as the instrumental variable technique to provide consistent, but not efficient estimators. For example, if lagged endogenous variables appear as explanatory variables, due either to persistence habit schemes or expectation formations, lagged prices and income can be used as instrumentals for these lagged dependent variables. Principal components of a matrix of lagged exogenous variables may also be used as effective instruments. In applied work, consistent starting values for the FIML method are frequently obtained from an initial instrumental variable estimation.

Special Estimation Problems

Intertemporal demand specifications, modeling the demand for durables, incorporating rational expectations into demand systems, etc. generate simultaneous dynamic systems. The systems resulting from these models can still be efficiently estimated by FIML. However, the estimation procedure becomes more complicated giving rise to two-stage estimation methods. For example, if rational expectations are incorporated into consumer demand systems, expressions with price expectations as functions of the expected values of the exogenous variables and errors terms are created (see e.g., [18]). While it is possible to estimate the stochastic processes generating the exogenous variables jointly with the parameters of the model with FIML methods, two-stage estimation procedures are often used. The generated variables emanating from the expectations schemes are estimated separately by, say, a Box-Jenkins procedure and then in the second stage these generated variables are substituted into the demand system and the remaining parameters are estimated by an appropriate, e.g., FIML, technique. This two- stage procedure is computationally attractive but yields losses in efficienty. In addition, the two-stage procedures also invalidate the straightforward likelihood function based tests of hypotheses. Corrective methods to overcome these problems in hypothesis testing have been developed (see e.g., [17]).

Alternative hypotheses can also produce consumer demand systems with endogenous prices and income. The more common of these are based on household production theories, endogenizing income, and the time series data on prices and quantity coming from equilibria of commodity markets. If prices and income are indeed jointly determined, then additional price determination, usually supply, equations and/or labor supply equations for income need to be added to complete the specification of the demand system. If this additional structure is not added to complete the models, the simultaneity gives rise to identification and misspecification problems.

TESTS OF RESTRICTIONS

Several asymptotically equivalent hypothesis tests are available for evaluating the restrictions of consumer theory. The Wald, likelihood ratio, and Lagrangian multiplier tests can be applied; but only the likelihood test will be discussed. Under appropriate regularity conditions $-2\ln L_o/L_A$ has an asymptotically chi-square distribution, $\chi^2(v)$, where v equals the number of linearly independent restrictions implied by the null hypothesis, L_o is the maximum value of the restricted likelihood function and L_A is the maximum value of the unrestricted likelihood function. An equivalent expression for the likelihood ratio statistic is $-2\ln\lambda = T\ln(|V'V|_o/|V'V|_A)$ where V'V is the reduced form residual moment matrix, i.e., minus two times the logarithm of the ratio of the maximum values of the unrestricted and restricted likelihood function equals the sample size times the logarithm of the difference between the determinant of the estimated restricted and unrestricted covariance matrices of the reduced form.

To illustrate how the LR test can be used in dynamic demand systems, consider the Anderson-Blundell model in equation (2). To distinguish between a dynamic structure and a static model with an appended autoregressive error term, the restriction D = EC must be evaluated. To proceed, estimate the system with and without the restriction imposed and calculate the associated maximum likelihood values for the restricted and unrestricted models. Then test this computed value against the appropriate critical χ^2 value. Other tests of parametric restrictions on equation (1) can be similarly performed.

Tests for causality, predeterminedness, and exogeneity in dynamic demand models are also possible. The three concepts differ, and Wu [19] has developed tests for each type of restriction. These tests have important implications for the possibilities for discriminating among alternative dynamic demand systems. A final problem to be discussed arises when one model is not a nested or special case of a more general or alternative form. For example, some habit formation schemes give use to demand systems that are not special cases of a partial adjustment demand system. And in the Anderson-Blundell model, the first difference model is not nested within the stochastic structure of expression (1). When this problem occurs, the usual likelihood ratio test or other asymptotically equivalent tests cannot be used. However, a recent but extensive literature has developed related to nonnested testing procedures applicable in these situations (see e.g., [8]).

CONCLUSIONS

Numerous and important advances have been made in modeling dynamic consumer behavior. With each new theoretical development, however, is associated a set of estimation and testing problems. Although the theoretical specifications differ widely, many of the estimators can be obtained using the familiar full information maximum likelihood approach. But as the models have become more complex, various other estimation procedures have been developed that yield consistent but not necessarily efficient estimators. The most complex of the situations discussed are those recognizing explicitly that in time series aggregate market data quantity prices and income all should be endogenous. The theory must be extended in these cases to provide structures for determining the equilibria. Micro foundations of supply and demand are then at issue and result in estimation problems which, while tractable, are highly complex. Discriminating among the alternative models in testing the various implied restrictions is important since, particularly for the more complex dynamic models, it is attractive to establish that the added structure is required given the available sample information. For most tests, the usual likelihood ratio or other asymptotically equivalent procedures can be employed. However, when models are nonnested, alternative nonnested testing procedures must be used. These procedures are generally less powerful and frequently produce classes of sets of models that are equally probable given the available data.

REFERENCES

1. Anderson, G. and R. Blundell. "Estimation and Hypothesis Testing in Dynamic Singular Equation Systems," Econometrica, 50 (1982):-1559-1571.
2. Anderson, G. and R. Blundell. "Testing Restrictions in a Flexible Dynamic Demand System: An Application to Consumers' Expenditure in Canada," Review of Economic Studies, L (1983):397-410.
3. Attfield, C. "Homogeneity and Endogeneity in Systems of Demand Equations," Journal of Econometrics, 27 (1985):197-209.
4. Attfield, C. and M. Browning. "A Differential Demand System, Rational Expectations and the Life Cycle Hypothesis," Econometrica, 53 (1985):31-48.
5. Berndt, E. and N. Savin. "Estimation and Hypothesis Testing in Singular Equation Systems with Autoregressive Disturbances," Econometrica, 43 (1975):937-957.
6. Bronsard, C. and L. Salvas-Bronsard. "On Price Exogeneity in Complete Demand Systems," Journal of Econometrics, 24 (1984):235-247.
7. Cooper, R. and K. McLaren. "Modeling Price Expectations in Intertemporal Consumer Demand Systems: Theory and Application," Review of Economics and Statistics, 65 (1983):282-288.
8. Davidson, A. and J. MacKinnon. "Several Tests for Model Specification in the Presence of Alternative Hypotheses," Econometrica, 49 (1981):781-793.
9. Deaton, A. and J. Muellbauer. "An Almost Ideal Demand System," American Economic Review, 70 (1980):312-326.
10. Fomby, T., R. Hill and S.R. Johnson. Advanced Econometric Methods. New York: Springer-Verlag, 1984.
11. Green, R. "Dynamic Utility Functions for Measuring Advertising Responses." In Proceedings from Research on Effectiveness of Agricultural Commodity Promotion Seminar. Arlington, Virginia (April 9-10, 1985):-80-88.
12. Johnson, S., R. Green, Z. Hassan, and A. Safyurtlu. "Market Demand Functions," forthcoming chapter in S-165 book, Iowa State Press, 1986.
13. Kamien, M. and N. Schwartz. Dynamic Optimization: The Calculus of Variations and Optimal Control in Economics and Management. New York: North Holland Publishing Company, 1981.
14. Kihlstrom, R. "A Bayesian Model of Demand for Information about Production Quality," Int. Econ. Rev., 15 (1974):99-118.
15. MaCurdy, T. "A Simple Scheme for Estimating an Intertemporal Model of Labor Supply and consumption in the Presence of Taxes and Uncertainty," Int. Econ. Rev., 24 (1983):-265-289.
16. Muellbauer, J. "Testing Neoclassical Models of the Demand for Consumer Durables." In Essays in the Theory and Measurement of Consumer Behavior, ed., A. Deaton, Cambridge: Cambridge University Press, 1981.
17. Pagan, A. "Econometric Issues in the Analysis of Regressions with Generated Regressors," Int. Econ. Rev., 25 (1984):221-247.
18. Wallis, K. "Econometric Implications of the Rational Expectations Hypothesis," Econometrica, 48 (1980):49-74.
19. Wu, D. "Tests of Causality, Predeterminedness and Exogeneity," Int. Econ. Rev., 24 (1983):547-558.

ISSUES AND METHODOLOGIES FOR MODELING DEMAND FOR DURABLE GOODS

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ABSTRACT

The paper discusses the issues and methods for estimating the demand for durable goods. The paper presents the most recent development in modeling the joint decisions of appliance choices and uses in determining energy demand. An application of such a model illustrates the complexity and difficulty in analyzing the dynamic behavior of buying and using the durable goods.

INTRODUCTION

Every year, consumers allocate a substantial portion of their budget to purchase various durable goods. In 1983, U.S. consumers spent 280 billion dollars for durable goods which accounted for 13% of the total personal consumption expenditures in the National Income Account. Despite the significance of this expenditure category, there are relatively few empirical models for analyzing the demand for durable goods. This is, perhaps, due to the fact that, as Muellbauer [6] pointed out, "Modelling the demand for consumer durables is not one of the easiest topics in applied economics." In fact, it is one of the most difficult areas.

The difficulties in modeling durable good demand lies in the fact that the purchase of durable goods involves allocating the flows of budget resources over time. Furthermore, durable goods have a long life and therefore, a consumer's purchase of the good at a particular time may be as an addition or a replacement. Thus, there is a strong dynamic component in the demand for durable goods.

One important characteristic of the durable good is that consumers generally do not directly consume durable goods. Rather we use the durable goods to produce the goods and services directly useful to us. For example, consumers need warm air in the winter and cool air in the summer. To satisfy these demands, we would purchase a central air conditioner and use it to produce hot and cool air. In modeling durable goods, we often consider both their purchase and use. Also, it often requires other nondurable goods such as energy to operate a durable good. As such the demand for durable goods is also related to the demand for nondurable goods. Thus, as in the previous example, the demand for cool and hot air in the house would generate the demands for for air conditioners and energy (such as electricity or natural gas).

In the literature, there are two general types of demand studies for durable goods. One deals only with the purchase of the durables and the other deals with its relation to the demand for other nondurables because of their usage.

The purposes of this paper are to review some important demand models for consumer durables and to investigate the role of durables in estimating energy demand. We focus on the methodologies for incorporating the dynamic behavior in empirical demand models.

STOCK ADJUSTMENT MODELS

The classical approach to deal with demand for durable goods is to incorporate a stock variable in the demand equation. This was done by Stone and Rowe [7] and Chow [3]. The basic idea in this approach is that consumers have a desirable stock of a durable good which as a result of utility maximization condition, can be expressed as a function of price and income. The actual purchase of a consumer durable is then affected by the current desired stock and the previous holding of the durable (with a specified rate of depreciation). Therefore, when the price of the durable and consumer income change, the consumer will adjust its desired stock. This stock adjustment will, in turn, affect the actual purchase of the durable. There are several variations in specifying the functional relationship between the purchase and stock adjustment.

In his study of automobile damand, Chow [3] derived and employed the following reduced from equation:

$$X_t = a_0 + a_1 P_t + a_2 Y_t + a_3 S_{t-1} + e_t \qquad (1)$$

where X_t is the number of cars purchased, P_t is price, Y_t is disposable personal income, and S_{t-1} is the stock of cars last year. In this specification, $a_3 = d-k$, where d is the depreciation rate and k is the stock adjustment coefficient. Therefore, by knowing d, k can be computed.

Equation (1) has incorporated the dynamic behavior through the stock adjustment. Thus, it captures both the short-run and the long-run responses. Specifically, the long-run price elasticity can be calculated as $(a_1P)/(kX)$ while the long-run income elasticity is $(a_2Y)/(kX)$.

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ROLE OF DURABLE GOODS IN SPECIFYING RESIDENTIAL ENERGY DEMAND

The 1973 and 1979 oil price shocks generated much interest among economists in estimating residential energy demand at different levels of geographic, fuel, and temporal aggregations. One common modeling strategy in the literature is to estimate the aggregate (as opposed to detailed end-use) residential demand for a particular fuel (such as fuel oil, natural gas, or electricity) at the national, state, or utility service area levels. It is well recognized that we, as consumers, can not adjust our energy use spontaneously to the fullest extent in response to changes in price and income. This is because in the short run, we are conditioned by the existing stock of appliances. It is only in the long run that we may achieve the desired level of appliances holding through new additions and replacement.

One common approach to incorporate this dynamic adjustment process is to follow the well known partial adjustment model or the flow adjustment model by Houthakker and Taylor [5]. These models generally lead to the presence of the lagged dependent variable in the reduced form equation. The most commonly adopted dynamic energy equation of this sort can be represented as:

$$\ln E = b_0 + b_1 \ln E_{t-1} + b_2 \ln EP_t + b_3 \ln Y_t + b_4 \ln Z_t + U_t \qquad (2)$$

where E_t = aggregate residential consumption of an individual fuel in period t,
E_{t-1} = lagged dependent variable,
EP_t = fuel price,
Y_t = per capita personal income,
Z_t = other explanatory variables such as heating and cooling degree days,
U_t = the error term.

Equation (2) was widely applied in many studies of energy demand at the state or utility service area levels. Note that in Eq. (2) the short-run price and income elasticities are the estimated coefficients b_2 and b_3, respectively. The corresponding long-run elasticities are $b_2/(1-b_1)$ and $b_3/(1-b_1)$. The major econometric problem of estimating the parameters in Eq. (2) is the potential serial correlation resulting from the correlation between the lagged dependent variable and the error term. Also, the paramters are often estimated from pooling time-series and cross-sectional data. Thus, the error components model is the appropriate technique for estimation.

The specification of a dynamic energy demand such as Eq. (2) is nevertheless ad hoc because the role of durable goods was treated only implicitly in the partial adjustment process. In order to incorporate the durable appliances explicitely in the determination of electricity demand, Chern et al. [1] replaced the lagged dependent variables in Eq. (2) by a set of applicance related variables as

$$\begin{aligned}\ln E_t = {} & C_0 + C_1 \ln P_t + C_2 (\ln P_t)^2 \\ & + C_3 \ln P_t . \ln Y_t \\ & + \sum_{j=4}^{7} C_j \ln P_t . S_{j-3,\, t} + C_8 S_{1t} . HDD_t \\ & + C_9 S_{2t} . CDD_t + \sum_{k=10}^{11} C_k S_{k-7,t} \\ & + C_{12} \ln Y_t + C_{13} \ln CR_t + U_t \qquad (3)\end{aligned}$$

where E = *quantity of residential sales of* electricity,
P = real average electricity price,
Y = real per capita personal income,
HDD = heating degree-days,
CDD = cooling degree days,
S_1 = saturation level of electric space heating equipment,
S_2 = saturation level of air-conditioners,
S_3 = saturation level of electric water heaters,
S_4 = saturation level of electric clothes dryers,
CR = number of residential customers.

In this model, major durable appliances were represented by the set of appliance saturation variables which were defined as % of households having the particular appliance. In essence, these are stock variables. Chern et al [1] estimated Eq. (3) with two-stage least squares (2SLS) and three-stage least squares (3SLS) using state-level data (thus, there were state dummy variables also).

The simultaneous equations model was necessary because the electricty price was treated as a endogenous variable due to the differential block-rate structure. Note also that Eq. (3) is really a varying elasticity model which allows demand elasticities to vary from observation to observation (or specifically, from state to state).

Electricity demand model in Eq. (3) is a short-run demand model because the stock of appliances is fixed. It is a conditional demand model given appliance saturation levels. Therefore, in order to estimate long-run electricity demand, we need to model the saturation levels of electric appliances. Since consumers select energy related appliances by fuel type, the choice of appliance may be treated as the choice of fuel. (Of course, one may consider the choice of different types of appliance within a fuel category such as different electric heating systems). One of such aggregate fuel choice models is a generalized appliance choice model which can be expressed for a particular end-use as

$$\begin{aligned}\ln \left(\frac{s_{it}}{s_{jt}}\right) = {} & d_0 + d_1 \ln P_{it} + d_2 \ln P_{jt} \qquad (4) \\ & + d_3 \ln P_{kt} + d_4 \ln Y_t \\ & + d_5 \ln \left(\frac{s_{i,t-1}}{s_{j,t-i}}\right) + U_t\end{aligned}$$

where S_i = saturation level (%) or market share of fuel i in period t,
P_i = price of fuel i.

and all other variables were defined previously.

Equation (4) follows the partial adjustment hypothesis and therefore, it is again an ad hoc procedure for handling the dynamic behavior of the choice of durables.

Unfortunately, the estimation of Eq. (4) can not be implemented because of lack of continuous time-series on appliance saturation. The state-level data from the Bureau of the Census were available only for 1960, 1970, and 1980. Note that for estimating Eq. (3), Chern et al. [1] generated appliance saturation data for intervening years but they are not real data.

JOINT DETERMINATION OF THE DEMAND FOR APPLIANCES AND THE DEMAND FOR ELECTRICITY

The methodologies presented in the previous sections are ad hoc because demand specifications for durable goods are not derived directly from maximizing a well defined direct or indirect utility function. In the case of energy demand, one may argue that the decisions for the purchase of an appliance and for the utilization of the appliance are jointly determined. Therefore, the parameters in the short-run utilization equation and the long-run appliance choice equation may be derived from the same direct or indirect utility function. One such model was developed by Dubin and McFadden [4]. They developed a model for estimating (1) space and water heating choices and (2) annual electricity demand conditioned on space and heating choices. In modeling space and water heating choices, they made several assumptions to justify appliance choices as a contemporaneous decision. Specifically, they assumed that real capital costs of heating systems evolve only slowly and future energy prices equaled to 1975 level. These assumptions were necessary in order (1) to simplify the theoretical model and (2) to facilitate the model estimation with micro household survey data which are typically available as a one time only cross-sectional data base. In fact, a dynamic appliance choice model derivable from the utility maximization conditions remains to be developed. It is not certain whether or not current data bases are sufficiently rich for estimating such a model (we need time-series of cross-sectional data or longitudinal data).

In the Dubin-McFadden model, the portfolio choice probabilities for electric space and water heating have a non linear multinominal logit form and are a function of annual operating cost, capital cost, income, electricity price, gas price, annual typical electric demand, annual typical natural gas demand, and gas availability index. The unit electricity consumption equation is also nonlinear and is a function of cost and price variables as in the choice equations and others variables like household size, number of rooms, and home ownership etc. Although, they developed the choice and unit demand equations jointly, they estimated the choice equations with the maximum likelihood method, and the demand equation by alternative consistent estimators.

The Dubin-McFadden model represents the most rigorous treatment of the choice of durable appliances and their usage in analyzing energy (or electricity) demand. However, the model requires extensive micro-level data base at the household level (just like other discrete choice models). Further these microsimulation models are often not adequate for forecasting aggregate energy (or electricity) demand. In order to fulfill the need to forecast aggregate electricity demand for the Nuclear Regulatory Commission, Chern and Just [2] developed a durable demand-utilization model which can be estimated on the basis of available aggregate data (at the state level). Chern and just employed the following indirect utility function with an assumption of strong separability:

$$V = V_o + \sum_j V_j \tag{5}$$

Where V_o = a function reflecting utility from all other groups of commodities,
V_j = utility function for household good j (such as warm air) produced by alternative fuels.

Furthermore, they postulated the following specific functional form:

$$V_j = g_j \left\{ \left[M + \sum_i I_j^i \left(-K_j^i + r_{oj} + r_{1j} P_i + r_{3j} Z_j + U_j \right) \right] e^{-\sum_i I_j^i P_i r_{2j}} + \sum_i I_j^i W_j^i \right\} \tag{6}$$

where g_j = any monotonically increasing function,

P_i = deflated price of household fuel i corrected for efficiency,
K_j^i = deflated annualized fixed cost associated with ownership and maintenance of the durable using fuel i to produce household good j,
Z_j = representative exogenous variable which affects the demand for household good j, i.e., heating degree days, urban residence, etc.,
I_j^i = Indicator of ownership of the durable using fuel i to produce household good j,
M = deflated per household disposable income,
U_j = unobserved terms and random short-run preferences for household good j,
W_j^i = unobserved terms and random long-term preferences for fuel type i in producing household good j.
r_{ij} = parameters to be estimated.

From Eq. (6). one can derive the electricity use equation using the Roy's identity and the probability of fuel choice following a generalized extreme value distribution assumed for W^i_j. Chern and Just further aggregated these results for individual consumers to the market aggregate. The empirical model consists of two sets of structural equations. The first is a set of appliance choice probabilities expressed in terms of the saturation of fuels by end-use as:

$$\ln \frac{S^i_j}{S^k_j} = (M-k^i_j+r_{oj}+r_{1j}P_i+r_{3j}Z_j)\, e^{-r_{2j}P_i} - (M-K^k_j+r_{oj}+r_{1j}P_k+r_{3j}\,Z_j)e^{-r_{2j}P_k} + U_{ijk} \tag{7}$$

where S^i_j = saturation (or market share) of fuel j for end-use i, and

$$U_{ikj} = U_j\,(e^{-r_{2j}P_i} - e^{-r_{2j}P_k}).$$

The market level use fuel equation is expressed as:

$$X_i = \sum_{j=1}^{J} S^i_j \left[\gamma_{oj}\gamma_{2j} - \gamma_{1j} + \gamma_{1j}\gamma_{2j}P_i + \gamma_{2j}\left(M-k^i_j\right) + \gamma_{3j}\gamma_{2j}Z_j + U_i\right] \tag{8}$$

where X_i = average use of fuel i per household,

and $U_i = \sum_{j=i}^{J} S^i_j\, r_{2j}U_j$

Due to the complicated structure of the error terms, the hetroscedasticity and contemporaneous convariance must be considered in efficient estimation. Note also that the same parameters appear in determining the fuel choices in Eq. (7) and fuel use in Eq. (8). Efficiency can not be attained unless the information relating to these parameters from both equations is utilized.

AN APPLICATION

To demonstrate the methodology developed by Chern and Just, a simultaneous equations model is developed to use annual electricity demand data from the 48 continuous states for 1955-1976. Appliance saturation data representing the proportions of electricity customers owning electric space heating equipment, air conditioners, and electric hot water heater are available for 1960 and 1970 only. Thus, the fuel choice or saturation equations are estimated with data for these two years (96 observations). For the usage equation, data on appliance saturations for the intervening years were derived from the logistic curve fitted with data for 1960 and 1970.

Since there are only three major electric appliances considered in the analysis, the model consists of the following four equations:

(1) Electricity usage equation similar to Eq. (8).

(2) Saturation equation for space heating (j = 1) similar to Eq. (7). The alternative fuel refers to all other fuels (natural gas and fuel oil combined). Therefore, the dependent variable in Eq. (7) can be expressed as $\ln [S_1/(1-S_1)]$. In this equation, the variable Z_j is heating degree days.

(3) Saturation equation for air conditioning (j = 2). Since the alternative is no air conditioning, the dependent variable can also be expressed as $\ln [(S_2/(1-S_2)]$. In this equation, the variable Z_j is cooling degree days.

(4) Saturation equation for water heating (j = 3), similar to the one for space heating.

Since we combine all alternative fuels to electricity into a composite aggregate, for each of the three end uses, only one fuel choice equation is needed. This is, of course, a simplification of the real world situation because consumers can only choose either of two fuel groups rather than three.

The estimation of this system of the four nonlinear equations follows the following four steps:

Step 1: The instruments are developed by ordinary least squares (OLS) for electricity price and the price of alternative fuels. These price variables are treated as endogenous variables in the model.

Step 2: The usage equation, Eq. (8), is estimated by OLS with instruments obtained from Step 1.

Step 3: The four structural equations are stacked together. All appropriate constraints across equations are imposed. The resulting nonlinear system is estimated by nonlinear least squares, using the parameter estimates from Step 2 as the starting values. (The software package, SAS is used for estimation).

Step 4: The residuals obtained from Step 3 are used to calculate the variances for each structural equation. The appropriate weights are then computed. These processes were iterated by performing weighted nonlinear least squares until the estimated parameters converged.

The procedure outlined above produce the consistent estimator but not the most efficient one. Further gain in efficiency is possible if one more step is taken to consider the correlations across equations. This additional step was not performed because it involves developing a rather messy convariance matrix of order 1344.

There are 12 parameters to be estimated, and they are r_o, r_{o1}, r_{o2}, r_{o3}, r_{11}, r_{12}, r_{13}, r_{21}, r_{22}, r_{23}, r_{31}, r_{32}. The parameter r_o is the constant term added to the usage equation to account for the impacts on electricity use of the excluded end uses such as lighting. Also, r_{33} is not included because there is no variable such as heating degree days (or cooling degree days) in the choice equation for water heating. Despite the small number of parameters, we encountered several problems in estimation. First, data on the annualized fixed costs (K_j) are only available for one year. Consequently, the income variable ($M-K_j$) are highly correlated. Therefore, the following constraints was imposed:

$$r_2 = r_{21} = r_{22} = r_{23}.$$

Furthermore, the two saturation variables for space heating and water heating are highly correlated. The following additional constraint is thus imposed:

$$r_{11} = r_{13}$$

Another constraint is related to climatic variables (Z_j):

$$r_{31} = r_{32}$$

The most troublesome problem is the lack of continuous time-series of appliance saturation data. Further improvement may be made to update the data base to incorporate additional data from the 1980 census. The preliminary results using the current data base are presented in Table 1. With the constraints imposed, the results are reasonable. All the estimated coefficients have the expected sign and small estimated standard errors.

TABLE 1. STRUCTURAL PARAMETERS ESTIMATED BY ITERATIVE WEIGHTED NONLINEAR LEAST SQUARES

Parameter	Estimated Coefficient	Estimated Asymptotic t-ratio
r_o	0.003315	33.5
r_{01}	-0.120504	-1.89
r_{11}	-0.009252	-3.79
r_2	0.070238	3.82
r_{31}	0.00003	3.60
r_{02}	0.010177	1.58
r_{12}	-0.001667	-2.33
r_{03}	-0.020338	0.54

The own-price and income elasticities for the usage equation can be calculated from Eq. (7). Using the sample means of saturation variables (S_1, S_2, and S_3) electricity price (P), and income ($M-k_1$, $M-K_2$, $M-K_3$), and average electricity use per household (X), the computed price and income elasticities for electricity usage (given appliance saturations) are -0.52 and 0.08 respectively.

The application presented in this section is likely a gross simplification of real world aspects of durable saturation and electricity use even though computational requirements are extensive. Nevertheless, the model offers considerably more structural detail than aggregate electricity demand relationships in standard use while tying estimated responses more closely to aggregate data than models based on micro survey data. It further illustrates the complexity of dealing with the demand for durable goods. Specifically, similar to the Dubin-McFadden model, the electric appliances or fuel choice equations specified in the above application remain static rather than dynamic.

CONCLUDING REMARKS

This paper reviews several approaches for estimating the demand for consumer durables. The traditional approach for studying the purchase of a consumer durable is to employ the stock adjustment model. This model is specified by an ad hoc manner but it captures both short-run and long-run demand responses. Furthermore, the stock adjustment model and the similarly formulated flow adjustment models have proved in the literature to be working very well in forecasting (in tems of stability and accuracy).

The paper also analyzed the role of durable goods (e.g. electric appliances) in specifying residential demand for energy in general, and for electricity in particular. Several approaches were reviewed for extending the ad hoc partial adjustment hypothesis to explicitly incorporate the saturation levels of appliances in energy or electricity demand models. The most recent development is to model joint decisions of the choice of energy durables and their intensity of use. The study demonstrated that by specifying a specific functional form for an indirect utility function, the appliance choices and usage equations can be derived. Energy (or electricity) demand can be determined by the choice of appliances (or equivantly the choice of fuels) and their usage. However, it is not an easy task to estimate the joint parameters for choice and use decisions. The area of estimating the demand for consumer durables is a challenging field, and much more needs to be done in this area.

REFERENCES

1. Chern, Wen S. and Just, Richard E. "Aggregation and Specification of Durable Choice and Durable Use Equations for Market Level Econometric Analysis." Paper presented at the 4th World Congress of the Econometric Society, Aix-en-Provence, France, August 28 - September 2, 1980.

2. Chern, W. S., Just, R. E. and Chang, H. S. "A Varying Elasticity Model of Residential Electricity Demand with Given Appliance Saturation." 1983 Proceedings of the Business and Economic Statistics Section, American Statistical Association, 1983, pp. 423-428.

3. Chow, G. Demand for Automobiles in the U.S.: A Study of Consumer Durables. Amsterdam: North-Holland, 1957.

4. Dubin, Jeffrey A. and McFadden, Daniel L. "An Econometric Analysis of Residential Electric Appliance Holdings and Consumption." Econometrica, 52(2): 345-362, March 1984.

5. Houthakker, H. and Taylor, L. D. Consumer Demand in the United States 1929-1970. 2nd ed., Cambridge, Mass: Harvard University Press, 1970.

6. Muellbauer, J. "Testing Neoclassical Models of the Demand for Consumer Durables." In Angus Deaton, ed. Essays in the Theory and Measurement of Consumer Behavior, London: Cambridge Univesity Press, 1981, pp. 213-235.

7. Stone, Richard and Rowe, D. A. "The Market Demand for Durable Goods." Econometrica, 25(2): 423-443, March 1957.

CONSUMPTION DYNAMICS AND EVALUATION OF ADVERTISING IMPACTS

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ABSTRACT

Research on the effectiveness of advertising and consumption dynamics is reviewed. Models used for advertising evaluation often have been single equation ad hoc specifications of demand equations that incorporate lagged advertising effects. The conclusions based on these models are short-run analyses. It is suggested that future analyses may need to become multiple commodity oriented and incorporate possible supply response.

Consumption is a dynamic adjustment process as consumers encounter new information and have new experiences. Modeling demand adjustment processes is especially critical when evaluating the impacts of advertising on consumer behavior. Advertising (especially television, radio, and print) is expected to have carryover effects and to develop cumulative impacts.

Advertising sponsored by groups of agricultural producers who collect funds under various state and federal legislative authorizations has been given considerable attention in the public policy arena. New marketing orders for beef, pork and watermelons are included in the Food Security Act of 1985. These are commodities for which supply response to successful promotion and higher prices is quite likely. In addition, the beef and pork orders generate increased advertising expenditures in the "protein" complex where substantial money is already being spent to promote cheese. Similar competition exists among fresh fruits and between vegetable oil based spreads and butter.

Because advertising expenditures are expected to increase under the Food Security Act of 1985, this paper specifically discusses issues associated with advertising programs paid for from funds authorized by state and federal legislation. It is likely that private firms face similar advertising research issues. These similarities are noted in the paper.

The objectives of this paper are:
1. To review the conceptual perspectives from which advertising research has been undertaken;
2. To review the conceptual issues when assessing the impacts of advertising; and
3. To appraise the extent to which these issues and challenges have been met.

Promotion of agricultural commodities supported by funds collected from groups of producers or processors has been referred to as "cooperative" or "generic" advertising. Throughout this paper, the term generic advertising is used to contrast with branded privately sponsored advertising.

CONCEPTUAL PERSPECTIVES

Research on advertising impacts has been undertaken from three somewhat divergent perspectives. The first perspective is that of public interest. The issues discussed have been related to the impacts of advertising on production and distribution costs, market power and concentration, and beliefs and values (19).

The second perspective from which advertising research has been undertaken is the perspective of the firm or industry paying for the advertising. Generally, groups paying the cost of advertising, whether branded or generic, are most concerned about the impact of advertising on sales or profits. Related issues are the impact on other firms and or products, optimal levels of advertising, and integration of advertising into an overall marketing mix. In some cases the advertising may be directed at a particular consumer problem or perception that is a barrier to increased profitability.

A third perspective is that of the government unit responsible for passing legislation that permits the collection and expenditure of funds for generic commodity promotion efforts. In many cases, concerns include public welfare impacts and the impacts of the advertising on the welfare of the industry for which the advertising is being done. In particular, increased attention will need to be given to cross commodity/industry impacts of advertising given the large number of different food commodity programs that have been initiated.

Research that involves consumption dynamics and is related to the general topic of this symposium has been done from perspectives two and three. Work directed at social concerns has not often been based on the theory of consumer behavior.

REVIEW OF CONCEPTUAL CHALLENGES

Issues associated with using time series data to analyze demand have been discussed for more than 30 years dating back to the early empirical studies by Fox, Foote, Waugh, Holbrook Working and Elmer Working (3, 4, 30, 28, 29). The issues include choice of time period, length of data observation, level in the marketing channel analyzed, demand shifters to include, functional form of the equation, accounting for seasonality, choosing proper deflators, errors in measurement of variables, and determining whether single equation or simultaneous equations are required.

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In an industry where supply control cannot be exercised, supply response to higher prices was recognized as an important issue by Nerlove and Waugh (30). They concluded that when supplies are uncontrolled, the economically optimal expenditure on advertising in the long run depends on 1) the price elasticity of demand, 2) the long-run effects of advertising expenditures on demand, 3) the price elasticity of industry supply, 4) the nature and extent of external economies or diseconomies of scale to the industry, and 5) the rate of return on alternative forms of investment (17, p. 814). Nerlove and Waugh present empirical evidence on items 1 and 2 and make plausible assumptions about items 3 through 5. In a later paper, Clement (1) elaborates on the supply response issues. The concept of optimal advertising and allocation of advertising across regions and products was discussed by Hoos (9), Waugh (30), Dorfman and Steiner (2), and Wellman (27).

All of the issues associated with advertising evaluation cannot be discussed in the time and space allowed. Three priority areas selected for discussion are:

1. Theoretical and empirical issues associated with measuring demand response to advertising.
2. Determining whether supply is endogenous or exogenous in the model.
3. Evaluating the impact of changes in demand at the consumer level on other participants in the marketing channel.

Demand Response

Properly specifying a demand equation to measure the impact of commodity advertising in a dynamic situation is challenging. Models that incorporate advertising impacts have most often been single commodity oriented and have not been derived from an underlying utility function that explicitly incorporates advertising or taste changes. The models are often logical specifications of single equations that generally involve specification of a lag structure for advertising. The models are usually estimated with time series or pooled cross sectional and time series data.

Many of the issues are similar to those discussed in other papers in this session. Several issues deserving elaboration when considering advertising models are treatment of competitive commodities, measuring advertising effort, specifying the length and structure of the lagged effects of advertising, and measuring socio-economic or regional impacts.

Treatment of Substitutes. Advertising is designed to have a positive impact on sales of a particular commodity perhaps at the expense of a competing commodity. In addition, demand theory would suggest that prices of substitute commodities should be expected to influence consumption except under very restrictive assumptions. Thus, both advertising efforts and prices of competing commodities are candidates for inclusion in a demand function which is designed to evaluate advertising effectiveness. Some commodity organizations advertise products that are competitors (ie. orange and grapefruit juice). In other situations close competitors are likely to begin receiving increased generic advertising support (beef and pork). Most certainly, questions about the effects of beef promotion on pork consumption and pork promotion on beef consumption are likely to be asked. Companies that produce similar brands of substitute products face such problems both within their company and with their competition.

The existence of substitution relationships suggests that evaluation of advertising needs to become more demand systems oriented. The analyses should not ignore closely related commodities and their advertising efforts. Some theoretical progress in this area has recently been made. Green (6) has proposed an almost ideal demand system (AIDS) that incorporates advertising and cross commodity impacts. In addition, AIDS allows advertising to cause demand to become either more or less elastic. Applications of systems like AIDS will provide more insight into the gains from doing multiple commodity advertising analyses.

Measuring Advertising Effort. Alternative measures of advertising effort include expenditures deflated by some cost index, potential exposures, and actual exposures encountered by specific households. In the majority of the literature, deflated expenditure data are used (7, 11, 12, 13, 21, 22, 23, 26). Generally, no measures are included to monitor changes in the quality of the campaign or strategy. Potential and actual exposures by household members are particularly difficult to estimate, especially for print media advertisements. For television and radio advertising it is possible to estimate actual exposures. Some commercial firms are using unobtrusive ways of monitoring television viewing by individual household members. The cost of these systems is high and results from test markets are difficult to generalize to the U.S. population.

Specifying the Length and Structure of Lagged Effects. The concept of lagged advertising impacts is not new. Waugh (30) was one of the early agricultural writers that described the concept of the advertising decay curve. In the same symposium, Hoos (9) also discussed the importance of carryover effects of advertising. Waugh (30, p. 367) predicted that "...the general concept of a decay curve may open up a big, new field of economic research designed to measure the effectiveness of advertising and promotion." Research to that point had attempted to measure the effect of current advertising on current sales or profits and had often reached negative conclusions. Nerlove and Waugh (17) later published one of the early studies that included the average level of advertising for the previous 10 years as well as current advertising in their demand model.

Waugh's prediction has turned out to be correct. Use of lags has become a frequent and often used technique to measure advertising effectiveness (7, 12, 13, 17, 20, 21, 24, 26). Kinnucan (10, 11) recently summarized the literature on lagged advertising effects and concluded that the theoretical literature gives little guidance. The length and structure of the lag is left to the judgement of the individual researcher. The problem is compounded if competing advertising is included in the model and interaction effects are anticipated.

Measuring Socio-Economic or Regional Impacts. Quite often advertising programs are directed at specific target audiences defined by socio-economic characteristics of the household or at specific regions thought to be particularly good prospects for increased consumption. Questions about the allocation of funds across target audiences (particularly regions) are often asked. One method of responding to these questions is by pooling cross section and time series data.

Pooling involves using repeat observations on elements of a cross section over time. The advantages of pooling depend on the nature of the cross section observed. When households are the cross section, the effect of advertising or promotion on households with particular socio-economic characteristics can be analyzed. When regions or cities make up the cross section, it is sometimes possible to observe a broader range of observations on the advertising effort which may help identify the advertising response. Studies by Ward and Davis (25) and Ward and McDonald (26) are among the best examples of using pooled cross-sectional household and regional data to evaluate advertising effectiveness.

The ability to segment household panel members into groups and apply different television advertising treatments to the groups greatly enhances the possible analyses that can be done by pooling cross-sectional and time series data. Data systems are commercially available to perform analyses of this nature. These systems generally combine the ability to alter cable television to specific households with grocery store scanner data collection systems for those same households. Scanner data collection systems potentially reduce data errors from poor recall but the data are restricted to purchases from stores in which purchases are recorded by scanning UPC codes on packages. The technology is relatively new but it appears that the expansion of the number of firms involved and number of panels available reflects substantial demand for the services offered.

Supply Response

While substantial research has been done on supply response for agricultural commodities, few studies of advertising effectiveness have incorporated supply response in the analyses. An exception to this generalization is a study by Thompson, Eiler and Forker (22). Inclusion of supply response in the analysis reduced the optimal expenditure level. The absence of supply response analysis in citrus can be traced to the length of the lag (5 to 8 years) required to generate additional supplies from new trees and the short-run nature of the analyses. The later work that was done on the Canadian orange juice market recognized the possibility that new supplies would come from competing suppliers (23). In situations in which additional supplies can come from imports, the need to differentiate domestic and foreign sources by advertising may be crucial. In addition, the need to analyze the possible effects of increased supplies from imports must be evaluated even in relatively short-run analyses where domestic supply can generally be assumed to be fixed. In these situations, it would be expected that the natural response would be for generic advertisers to attempt to differentiate their product from the competition. These problems are very similar to those faced by brand owners.

A second problem that generic advertisers may face is the possibility of increased supplies of substitutes. If, in the short-run, high prices and a highly profitable industry result from the advertising, competing product responses may be more rapid. It is possible that for some products (orange juice) the supply response for relatively close substitutes (orange drinks) may be faster than for the product being advertised. For the meat industry, poultry and pork supplies would be able to respond to increased meat demand faster than would beef supplies. Product differentiation is likely to be the key to successful commodity advertising when supplies of relatively close substitutes can be increased more rapidly than can supplies of the commodity being advertised.

For branded products, advertising has been treated as a barrier to entry by competition and assumed to impact on the elasticity of demand. Advertising could also be treated conceptually as altering competitors' supply decisions. It is possible that advertising for a new branded product can create demand for similar products and reduce the cost of entry because the new entrant can concentrate on competitive advertising rather than introducing consumers to a new product concept.

One of the interesting implications of including supply response in the analysis is that advertising may become endogenous to the system since many agricultural commodity advertising programs are often funded from fixed assessments per unit of commodity sold. Generating a supply response then may increase the availability of funds to use for advertising. Thus, advertising is no longer an exogenous policy variable and becomes endogenous to the system.

To summarize, it is clear that the issue of supply response to advertising is not yet resolved and is perhaps not given sufficient recognition by researchers. In particular, the issue of supply response includes supply response of close substitute products as well as the possibility that imports may provide a source of increased supplies.

Consumer Responses and Producer Payoffs

Farm producers provide inputs that are used in products that are consumed. Other advertisers are in similar situations (aluminum can manufacturers, for example). The question facing producers of raw materials who are paying the cost of advertising the final product is the extent to which the market structure allows those impacts to be transmitted back to those paying for the advertising. As Waugh stated, "Specifically the farmer wants solid statistical facts about the costs of various kinds of promotion, and about their dollars-and-cents effects upon farm income." Myers restated this concern and summarized the research in this area: "Efforts to determine how advertising impact at the consumer level is transmitted back to the producer level have often involved simplistic price transmission relationships (16, p. 177).

In order to respond to Waugh's statement it is necessary to understand the structure of the markets in which advertising is being used. Tracing through these impacts is complicated by the existence of other farm commodity programs designed to restrict supply, and market structures at the retail and processing levels that are not perfectly competitive.

SUMMARY AND CONCLUSIONS

Advertising evaluation has been a topic of discussion for more than 20 years, yet answers to some of the basic questions originally asked are still not available. As a profession, economists have done a great deal of work quantifying the impact of advertising within the context of single equation demand models. If the ad hoc demand function specifications are accepted, then it is possible to answer questions about how much consumer demand has been influenced by commodity advertising.

Many other questions remain. Cross-commodity impacts have not been effectively analyzed in most of the published analyses. Some authors have reported attempts to measure the influence of competing commodity prices and have reported multicollinearity problems (12, p. 104). Most of the analyses are short-run in nature with little concern about possible long-term consequences. Supply response by competing products and the product in question have, for the most part been ignored.

Since much of the research that has been done depends on expensive data sources, the absence of data is almost always an important constraint. A continuing key to improved advertising program evaluation will be the existence of improved data systems. Unfortunately, one of the biggest challenges we face as researchers is generating consistent data sources on advertising effort by commodity class and for the various brands in the market. Future work will, by necessity, need to involve multiple commodities and systems of equations if the complete implications of the effects of advertising on products for which supply is uncontrolled are to be developed. Recent work on both dynamic demand theory and estimation methodology are likely to provide improved conceptual and empirical approaches to analyses of consumer behavior.

REFERENCES

1. Clement, Wendell E. "Some Unique Problems in Agricultural Commodity Advertising." J. of Farm Econ. 45(1963):183-194.

2. Dorfman, R. and P. O. Steiner. "Optimal Advertising and Optimal Quality." Amer. Econ. Rev. 44(1954):826-836.

3. Foote, Richard J. and Karl A. Fox. "Analytical Tools for Measuring Demand." USDA Ag. Handbook No. 64, January 1954.

4. Fox, Karl A. "The Analysis of Demand for Farm Products." USDA Tech. Bul. 1081, September 1953.

5. Grigsby, S. Elaine. "Empirical, Analytical, and Measurement Issues in Evaluating Effectiveness of Advertising and Commodity Promotion Programs: Cross-Section and Pooled Analysis" in Proceedings From Research On Effectiveness Of Agricultural Commodity Promotion Seminar. Walter J. Armbruster and Lester H. Myers eds. Arlington, Virginia, April 1985. Farm Foundation and USDA.

6. Green, Richard. "Dynamic Utility Functions For Measuring Advertising Response" in Proceedings From Research On Effectiveness Of Agricultural Commodity Promotion Seminar. Walter J. Armbruster and Lester H. Myers eds. Arlington, Virginia, April 1985. Farm Foundation and USDA.

7. Hall, Lana and Ingrid Foik. "Generic Versus Brand Advertised Manufactured Milk Products-- The Case Of Yogurt." North Central Journal of Agricultural Economics 5(1983):19-24.

8. Hockman, E., U. Reger and R. W. Ward. "Optimal Advertising Signals in the Florida Citrus Industry: A Research Application." Amer. J. Agr. Econ. 56(1974):697-705.

9. Hoos, S. "The Advertising and Promotion of Farm Products--Some Theoretical Issues." J. Farm Econ. 41(1959):349-363.

10. Kinnucan, Henry W. "Evaluating Advertising Effectiveness Using Time Series Data" in Proceedings From Research On Effectiveness Of Agricultural Commodity Promotion Seminar. Walter J. Armbruster and Lester H. Myers eds. Arlington, Virginia, April 1985. Farm Foundation and USDA.

11. Kinnucan, Henry. "Evaluating Farm Commodity Promotional Programs." Unpublished symposium paper presented at the American Agricultural Economics Association Annual Meetings, August 1984.

12. Kinnucan, Henry and Deborah Fearon. "Effects of Generic and Brand Advertising of Cheese in New York City With Implications for Allocation of Funds." North Central Journal of Agricultural Economics 8(1986): 93-107.

13. Kinnucan, H. W. and O. D. Forker. "Seasonality in the Consumer Response to Milk Advertising: Implications for Milk Promotion Policy." Dept. of Agr. Econ. Research 82-29, Cornell University, September 1982.

14. McClelland, E. L., Leo Polopolus and L. H. Myers. "Optimal Allocation of Generic Advertising Budgets." Amer. J. Agr. Econ. 53(1971): 565-572.

15. Morrison, Rosanna. "Generic Advertising of Farm Products." Washington, D.C.: USDA ERS Agr. Inform. Bul. 481, 1984.

16 Myers, Lester H. "Methodology Research Frontiers to be Pursued" in Proceedings From Research On Effectiveness Of Agricultural Commodity Promotion Seminar. Walter J. Armbruster and Lester H. Myers eds. Arlington, Virginia, April 1985. Farm Foundation and USDA.

17. Nerlove, Marc and Frederick V. Waugh. "Advertising Without Supply Control: Some Implications of a Study of the Advertising of Oranges." J. Farm Econ. 43(1961): 813-837.

18. Pope, Rulon D. "The Impact of Information on Consumer Preferences" in Proceedings From Research On Effectiveness Of Agricultural Commodity Promotion Seminar. Walter J. Armbruster and Lester H. Myers eds. Arlington, Virginia, April 1985. Farm Foundation and USDA.

19. Shaffer, James Duncan. "Advertising In Social Perspective." Amer. J. Agr. Econ. 46(1964): 387-397.

20. Simon, J. L. and J. Arndt. "The Shape of the Advertising Response Function." Journal of Advertising Research 20(1980): 11-28.

21. Thompson, S. R. and D. A. Eiler. "Producer Returns From Increased Milk Advertising." Amer. J. Agr. Econ. 57(1975): 505-508.

22. Thompson, S. R., Eiler, D. S., and O. D. Forker. "An Econometric Analysis of Sales Response to Generic Milk Advertising in New York State." Department of Agricultural Economics, Cornell University, Search 6(1976): 1-24.

23. Tilley, D. S. and Jong-Ying Lee. "Import and Retail Demand for Orange Juice in Canada." Can. J. Agr. Econ. 29(1981): 171-186.

24. Ward, R. W. "Measuring Advertising Decay." Journal of Advertising Research 16(1976): 37-41.

25. Ward, Ronald W. and James E. Davis. "A Pooled Cross-Section Time Series Model of Coupon Promotions." Amer. J. Agr. Econ. 60(1978): 393-401.

26. Ward, Ronald W. and Williams F. McDonald. "Effectiveness of Generic Milk Advertising: A Ten Region Study." Agribusiness 2(1986): 77-90.

27. Wellman, H. R. "The Distribution of Selling Among Geographic Areas." J. of Marketing 3(1939): 225-238.

28. Working, Elmer. What Do Statistical 'Demand Curves' Show?" Quart. Jour. Econ. 39(1927): 212-235.

29. Working, Holbrook. "The Statistical Determination of Demand Curves." Quart. Jour. Econ. 39(1925): 503-543.

30. Waugh, Frederick V. "Needed Research on the Effectiveness of Farm Products Promotions." J. Farm Economics 41(1959): 239-243.

FAMILY AS A CONSUMING UNIT: OVERLOOKED VARIABLE IN THE MODERNIZATION PROCESS

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Introduction

Modernization, through development programs, is the goal of less developed societies. The family as a consuming unit, in the context of modernization, is the focus of this paper. The objectives are to analyse modernization, the family as a producing-consuming unit within this context, the sources and characteristics of the product input needed for household production, the constraints in obtaining product input and the challenges posed by these constraints.

Modernization, Income Approach and Household Production

Modernization is seen as the change from a 'traditional', pre-industrial state or condition, to 'modernity', through intermediate 'transitional' conditions (8). The ultimate goal of modernization is 'free choice'. "Modernization as a non-economic process originates when a culture embodies an attitude of enquiry and questioning about how men make choices. The problem of choice is central for modern man. To be modern means to see life as alternatives, preferences and choices" (1). The most common means believed to achieve transformation from a traditional to a modern choice-oriented society is to generate income and to raise levels of living aspirations among people of the less developed countries.

Production is the primary objective and generating money income is the approach to improve economic welfare. The assumption is that money income will open up choice alternatives. Such macro-emphasis on production has been transferred to microfamily economics. In Becker's model of household production (3), "Households are both producing units and utility maximizers. They combine time and market goods, via the production function in order to utilize subject to a budget constraint." Following the western trend in the third world countries, the emphasis has been on the study of time input in household production and on economic returns to determine production efficiency.

The second input into the household production model is market goods which is equally important in generating utility. The availability of appropriate market goods has been subassumed under money income. The income approach assumes that households will determine the product mix input through market choice subject to the availability of money income. However, in many less developed societies, there are important exceptions to the assumption: 1) income generation has not been accompanied with anticipated choices in goods and services in the economy and 2) households belonging to some socioeconomic groups do not always obtain their goods and services through the market choice process. Hence, "Income approach (in economic development planning) has paid a good deal of attention to choice technique, but has neglected the need to provide for appropriate products" (14). Thus from a family-consumer economics perspective, in less developed societies, household production studies should focus on both time input and market goods as inputs. The product mix includes goods and services from private and public sectors obtained through market and non-market processes.

Modernization, Economic Structure and Household Protection

The current phase of modernization in most third world countries can be described as a transitional condition. The transitional societies include some modern-minded people with income and opportunity to exercise free choice. There may be others who are transitional in outlook and attitudes as well as many who are traditionally minded and may have inadequate money income. "The economy also will exhibit dual characteristics. A modern sector variously termed the 'cash, 'monetary', or 'modern sector', and the 'non-monetary', 'household', 'traditional' or 'subsistence' sector" (8).

In the modern sector, the income approach to household production holds well. But the constraints unique to transitional societies may hamper the efficiency of household production. Among the households in the traditional sector, many transactions of goods and services occur through reciprocity, family ties, honor and neighborliness or by subsistence cultivation and barter. In these cases, an income approach to household production is not very useful. An alternative approach is to assess the effect of the available goods and services on the production efficiency of the household.

Consuming Units and Product Characteristics

The producing-consuming units seek products with appropriate characteristics as input for household production. The households, through market or non-market processes, seek products with characteristics to fulfill their needs. "Consumption is an activity in which goods, singly or in combination are inputs and which output is a collective of characteristics. The good, per se, does not give utiliity to consumers; it possesses characteristics and those characteristics give rise to utility" (12).

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Products can be classified according to their need satisfying characteristics. Bhandari's (4) classification is: products for a) life maintenance, b) productive life and c) psychic and social life. Another classification which reflects similar need satisfying characteristics is: products of a) basic needs, b) comfort and c) luxury. The product input mix will vary in priority, quantity and quality subject to variations in households income, religion, ethnicity, urban-rural residence, and particiapation in modern or traditional sectors of the economy. Though all consumers will need products for life maintenance or basic needs and productive life, consumers with discretionary income will place greater emphasis on products of productive life and social and psychic life.

Product Supply in Traditional and Modern Sectors

In developing societies, products to meet different needs come from the modern traditional sectors. A market economy with money exchange is the most common source of supply for the modern sector. The traditional sector on the other hand, mostly obtains its goods and services through informal and non-money exchanges. The sources of supply and mode of exchange for these sectors are presented in Table 1.

Both modern and traditional sectors depend on private market goods and services, public goods and services and communal resources for product input. In many developing countries emphasis on the monetized market economy has disrupted the supply of goods and services to the households in the traditional sector. For example, emphasis on cash crops instead of subsistence crops eliminates the main source of food for the farm families in Africa; common property resources, such as forests that supplied fuel, disappear due to commercial felling of trees in India.

For households in the modern sector, an inadequate supply of goods and services, indifference to quality of goods and services and inefficient market distribution system can disrupt the availability of products. An example of success in production and failure in distribution is in India where green revolution efforts have produced a surplus of wheat. However, "Government purchased the food grains and does not seem to know how to get it into the stomachs of the underfed millions. The procurement and storage agencies have no warehouse space left and large amounts of wheat are reported to be rotting in the open" (13).

Table 1. Economic sectors and product mix supply sources and mode of exchange in less developed societies

Sector	Product Mix/ Goods and Services	Sources of Supply	Modes of Exchange
Traditional	Life maintenance/basic goods and services	1. Family/subsistence farms and family enterprises	1. Exchange of family time and skills
	Productive life/comfort goods and services	2. Village farms and enterprises owned by others	2. Contractual exchange agreements: Time and skill exchanged for grains, clothes, etc.
	Psychic/social life/ luxury goods and services	3. Common property resources	3. Used by entire community without any exclusive individual ownership or access rights
		4. Public goods and services market	4. Government rural development and welfare programs: May or may not involve monetary exchanges through price or tax system (direct or indirect)
		5. Private goods and services market (local traders, vendors, artisans, etc.)	5. Direct monetary exchange through price system
Modern	Life maintenance/basic goods and services	1. Private goods and services market	1. Direct monetary exchange through price system
	Productive/life/comfort goods and services	2. Public goods and services market	2. Direct and indirect monetary exchange through price and tax system
	Psychic/social life/ luxury goods and services	3. Community services	3. Direct monetary contribution and indirect tax payment. Voluntary time and skill exchange for community services

Modernization and Inegaltarian Bias in Product Development

Modernization in developing societies seems to be synonomous to industrialization, market economy expansion and a consumption style which emulates affluent societies. Consumers with money income in the modern sector equate rising levels of living with modernization characteristics which reflect a western life style. James (9), identifies this propensity of consumers in the developing societies to regard as superior, goods imported or identified with the west.

In many developing societies, modern sector consumers' needs and wants, backed by effective demand, receive priority over those households in the traditional sector. Such inegalatarian bias in product development is common in developing societies. "In many developing societies, the import and domestic production of over-sophisticated products transferred from relatively high-income and high-saving economies has frustrated the pursuit of a basic needs approach, by catering to the demand of a small section of the population or preempting an excessive slice of the low-income of the poor" (14). As a result there often are inadequate product alternatives for low-income consumers. Austin (2) states, "Those with the greatest effective demand for high quality processed goods are wealthy, who desire 'convenience' aspects and built-in-maid service and those products are tailored to their wants. Thus, the poor consumers may be faced with either a high priced item with many extras built-in or nothing. "Middle level" processed goods, that is those with taste and nutritional value superior to certain non-processed foods in the same category, but without frills, simply do not exist."

The Effect on Household Production of the Characteristics of Product Inputs

Input of products with appropriate characteristics can be analysed as a) input of a single product with inappropriate characteristics and b) input of a product with inappropriate characteristics due to a lack of appropriate complementary products. In both cases, there are important implications for resource allocation and welfare of consumers in developing societies.

The single product case is cigarette consumption; the product mix case is that of drinking water and human waste disposal service. For both illustrations, it is assumed that good health is a desirable output of household production.

Cigarette consumption in less developed societies has been increasing as indicated in Table 2. In the countries with higher per capita money income and higher literacy (U.S., U.K. and Sweden) cigarette sales are decreasing. All developing countries with one exception show increased consumption. The increased consumption will be detrimental to the general health.

From the resource allocation perspective, Smith (15) compares the time in wage labor required to earn income from the purchase of 10 Marlboro cigarettes in various cities. "The packet of 20 cost the San Francisco mechanic 5 1/2 minutes of labor and the manager 2 1/3 minutes; in Bogota, Columbia, 70 minutes and 4 minutes respectively." The income from 70 minutes of labor will be spent by the Columbian mechanic on a product with inappropriate characteristics.

Table 2. Cigarette use in selected countries

Country	Cigarette use per capita (percent world average)	Change in total Consumption since 1975[a] (percent)
United States	227	0
United Kingdom	152	-27
Sweden	124	- 3
South Korea	186	+45
Philippines	130	+24
Egypt	119	+138
Brazil	104	+17
China	102	+85
Mexico	77	+10
India	56	+33
Kenya	37	+48
Zimbabwe	35	-35
Bangladesh	19	+29

[a] End points are 3 year average
Source: World Watch Institute, 1986

A product mix with appropriate complementary goods and services is often not available to consumers in less developed societies. Drinking water, water for sanaitation needs and waste disposal are public goods essential for child health. Chandler (6) states, "Water plays two important roles in a malnutrition crisis; its shortage reduces not only food production, but also food use efficiency. Contaminated wells, buckets, and pots, along with unpreserved food carry diarrheal diseases into children. When women walk up to three hours to get minimal water supplies, water becomes too valuable for washing and an important defense against infection is lost."

The interrelationships between child mortality, clean drinking water and human waste disposal service is presented in Table 3. Infant mortality is inversely associated with increased availability of drinking water and human waste disposal service. In this context, the sale of artificial baby food can lower the chances of child survival, particularly in traditional sector households. The household production efficiency in many developing societies will improve is products with appropriate characteristics are readily available for households.

The need for appropriate products as inputs into household production has implications for research and action: a) recognition of the importance of appropriate product mix inputs to household production efficiency, b) assessment of the constraints, other than budget constraints, which impede access to appropriate goods and services, c) development of alternative output measures such as health and child survival rates to assess household production efficiency, d) development of consumer education to overcome inegaltarian bias in product development, e)

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Table 3. Availability of clear drinking water and human waste disposal service in selected countries, circa 1982

	Infant mortality (percent)	Share of population with service	
		Clean drinking water supply (percent)	Human waste disposal (percent)
Bukina Faso	21	31	N.A.
Afghanistan	20	11	N.A.
Angola	15	27	N.A.
Ethopia	15	16	14
Bolivia	13	37	24
India	12	42	20
Pakistan	12	34	6
Turkey	12	78	8
Indonesia	10	22	15
Tanzania	10	46	10
Honduras	9	44	20
Brasil	8	55	25
Mexico	5	57	28
Philippines	5	51	56
Portugal	2.6	73	N.A.
Soviet Union	2.6	76	N.A.
United States	1.2	99	99

Source: L. Brown, et al., State of the World, 1986

development of government policies to eliminate inefficiency in the product and service distribution systems, and to assure the supply of products with appropriate characteristics.

Needs of consumers in the modernization of developing societies must be given greater attention in development planning. National production efficiency measured in Gross National Product growth means nothing unless families have appropriate products, at the right time, at the right place and for affordable prices for efficient household production.

REFERENCES

1. Apter, David. The politics of Modernization. Chicago University Press, 1965, pp. 9-10.

2. Austin, James E., et al. Urban Malnutrition. A report submitted to the World Bank by Harvard University, 1976, p. 88.

3. Becker, Gary S. A Theory of the Allocation of Time. The Economic Approach to Human Behavior, Chicago: Chicago University Press, 1976, pp. 89-113.

4. Bhandari, Ladhi. The Poor as Consumers. In Korten, D. C., and Alfonso, F. B. (Eds.). Bureaucracy and the Poor, West Hartford: Kumarian Press, 1985, pp. 165-177.

5. Brown, Lester R. and Wolf, Edward C. Assessing Ecological Decline. In Brown, L. R. et al., State of the World 1986. A World Watch Institute Report, New York: W. W. Norton and Co., 1986, p. 35.

6. Chandler, William U. "Banishing Tobacco," World Watch Paper 68. Washington, D.C.: World Watch Institute, January 1986, p. 9, 17.

7. Chandler, William U. "Investing in Children," World Watch Paper 64. Washington, D.C.: World Watch Institute, June 1985, p. 31.

8. Goldthorpe, J. E. The Sociology of the Third World. New York: Cambridge University Press, 1984, p. 133.

9. James, Jeffrey. Consumer Choice in the Third World. London: The McMillan Press, Ltd., 1983, p. 34, 161.

10. Korten, David C. Social Development: Putting People First. In Korten, D. C. and Alfonso, F. B. (Eds.), Bureaucracy and the Poor. West Hartford: Kumarian Press, 1985, pp. 201-221.

11. Lancaster, K. A New Approach to Consumer Theory, Journal of Political Economy, Vol. 84, April 1966, pp. 132-157.

12. Ninan, T. N. "Paying the Price," India Today, March 15, 1986, p. 34.

13. "Poverty Amidst Plenty," India Today, September 30, 1984, p. 4.

14. Steeten, Paul. The Distinctive Features of a Basic Needs Approach to Development. In Ghosh, P. I, (Ed.), Third World Development: A Basic Needs Approach. Westport: Greenwood Press, 1984, pp. 29-40.

15. Smith, Dvaid M. Where the Grass is Greener: Living in an Unequal World. Baltimore: The John's Hopkins Press, pp. 64-65.

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MEETING CONSUMERS' NEEDS: COMMERCIAL ENTERPRISES OFFERING ASSISTANCE WITH FINANCIAL CONCERNS

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ABSTRACT

In light of the rapidly changing financial services marketplace, concerns have been raised about the resulting benefit or lack thereof to consumers. On the surface these changes seem to be leading in the direction of a financial services sector consisting of more holistic and less specialized service providers. Is this, in fact, the case? Are the financial service needs of rural consumers being neglected as a result of the trend toward holistic services? Answers to these and other questions were sought in Wisconsin and are presented in the following research report. The research reported here is the third year of a project funded by the Wisconsin Agricultural Experiment Station entitled, "Use of, Satisfaction With, and Need for Financial Services: A Comparison of Rural and Urban Adults."

INTRODUCTION

The financial services marketplace has undergone and continues to undergo a significant change of complexion. Single service institutions are being replaced by multiple service institutions. State institutions are being replaced by regional institutions and in the future will likely be replaced by national institutions. Services once exclusively offered by traditional financial institutions such as banks and thrifts are now being marketed by retail establishments and stock brokerage firms as well. Traditional financial institutions are providing insurance and stock brokerage services. Financial planning, counseling and management services are being marketed at a feverish pace all across the U.S. Large insurance companies and stock brokerage firms are re-titling their employees with names such as financial planners, financial consultants and the like. This trend suggests that financial service providers are capitalizing on consumers' needs for holistic financial planning and are attempting to provide a mix of products and services to meet those needs. How much progress has been made toward developing commercial enterprises that have a product/service mix that addresses the need of consumers for holistic financial assistance? Has this trend resulted in the neglect of rural consumers by these hybrid institutions? Are there differences in the products and services offered by the specific financial institutions to rural and urban consumers? The purpose of this study was to search for answers to these questions and other questions that have important implications for consumers of financial services in Wisconsin.

REVIEW OF LITERATURE

A body of popular and scholarly literature serves as a forum permitting the examination of the changing nature of the financial services industry. Debates continue about the impetus for the current changes occurring in financial institutions. Kane [8] identifies the impetus as the market instead of government deregulation, which he says only reacted accommodatingly to what was already in motion. Stetson [14], on the other hand, attributes the metamorphosis to government deregulation, indicating that the eventual phase out of Regulation Q has spawned experimentation in the financial services industry. Regardless of the impetus for change, the important questions are: what form has the change taken, and how will consumers be affected?

The form of change taken varies across financial service providers. Tax preparers such as H&R Block are experimenting by marketing personalized money management services to help the average American family [9]. Real Estate brokerage firms are consolidating with other financial-service institutions to provide a quasi-full line image [5,14]. Companies in the steel, oil, electronics and retailing industries have acquired financial service companies [13]. The most publicized of the retailers entering the financial services industry and the one thought to hold the most potential is Sears. Banks and insurance companies are also considering strategies to incorporate a wider range of products and services [6,2,17].

A major impetus for broadening services among financial institutions has been the burgeoning popularity of financial counseling and planning. Independent financial planners and counselors have saturated most cities. Attempts to validate the competence of this group have principally taken the form of a registry of financial planning [12] and certification associated with correspondence courses. Financial planning professionals come from a variety of backgrounds, have differing approaches to charging for services, target different client groups, and vary in products and services offered [10,3,4,16].

Despite high levels of activity to develop innovative services among financial-service providers many people are concerned about segments of the population whose financial service needs are going or may go unmet. Relatively recent national polls suggest that "cracks" exist in the delivery of financial services [1,7]. Concerns about the quality of available services have been raised, indicating that few individuals and families receive holistic analysis and guidance. Rather, they obtain help in bits and pieces from many different organizations [18]. In spite of these concerns, little empirical work has been generated that examines the financial services industry to verify or dispell notions about the inadequacy of existing or evolving services. In response to that void, research was initiated at the University of Wisconsin-Madison and the results are reported here.

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METHODOLOGY

This research report summarizes a survey conducted in the third year of a three-year project entitled "Use of, Satisfaction With and Need for Financial Services: A Comparison of Rural and Urban Adults" [11]. The objective of the third year, as set forth in the original proposal, was to determine which commercial firms/agencies presently provide financial services to Wisconsin's consumers and whether they differ by the rural/urban character of the county of their location. Several methodological steps were taken to accomplish this over-all objective.

First, a set of third year specific objectives were developed and included identifying: the commercial providers of assistance with financial concerns; types of assistance provided by each firm (i.e. products and services provided); the target groups or clientele of each enterprise; the primary users of the services; the training, experience and licensing of employees providing assistance; the method used to determine fees; whether or how outside consultants are used; formats used to provide and complete delivery of assistance; evaluation of assistance delivered; extent to which providers require and/or provide continuing educational opportunities for employees who deliver assistance. Results related to the first two aspects of the third year specific objectives will be reported and discussed below.

Next, careful consideration was given to identifying the population of interest. Since the group of general interest was commercial enterprises offering assistance with financial concerns, the population was narrowed down to include ten different financial service providers. Included were adjustment service companies, banks, brokerage firms, credit unions, finance companies, financial planners, insurance agencies, real estate companies, savings and loan associations, and tax preparers. In part, these groups were determined by household responses to a question in the second year survey regarding the financial institutions to which consumers turn for assistance. A mail questionnaire was developed by the principal and co-principal investigators, in consultation with the project's advisory committee, that would address each objective. After several drafts of the questionnaire were developed and revised, it was pilot tested by representatives of each of the ten subgroups from the population of interest.

Sampling

Since a major purpose of the study was to examine rural and urban differences among financial-service providers, it was necessary to identify sampling frames from which to draw representative samples for each commercial enterprise in the population of interest. This was accomplished by locating different lists including all Wisconsin commercial enterprises falling within each category of the population and identified by location (i.e. SMSA or Non-SMSA). For example, in the case of banks the Rand McNally International Bankers Directory, U.S. Masters 2 (1983 edition) was used from which main offices in 74 SMSA's and 37 Non-SMSA's were randomly sampled by use of random number tables. Similar procedures were followed to identify samples for each of the other nine groups in the population of interest resulting in a total sample of 615 financial-service providers representing the ten types of firms. The questionnaire was addressed to the president or manager of the firm/agency

TABLE 1. Sampling Distribution of Rural/Urban Commercial Firms That Provide Assistance With Financial Concerns (Response Rate in Parentheses).

Agency	Urban Firms	Rural Firms	Total
Accountancy Firms	30 (46.6)	15 (60.0)	45 (51.1)
Adjustment Service	9 (66.6)	1 (100.0)	10 (77.8)
Bank	60 (56.6)	30 (60.0)	90 (57.8)
Brokerage Firm	60 (50.0)	15 (46.6)	75 (49.3)
Credit Union	60 (58.3)	30 (76.6)	90 (64.4)
Finance Company	30 (50.0)	15 (53.3)	45 (51.1)
Financial Planners	30 (53.3)	15 (33.3)	45 (46.7)
Insurance Agency	60 (46.6)	30 (56.6)	90 (50.0)
Real Estate Agency	30 (30.0)	15 (53.6)	45 (37.8)
Savings & Loan	60 (55.5)	30 (70.0)	90 (60.0)
Total Firms Sampled	420 (52.3)	195 (60.0)	615 (54.8)

TABLE 2. Financial Products Offered by Agencies or Firms That Assist Clients With Financial Concerns.

Financial Products	Accountancy Firm	Adjustment Agency	Bank	Brokerage Firm	Credit Union	Finance Company	Financial Planner	Insurance Agency	Real Estate	Savings & Loan
No product offered	21.7%	85.7%	0.0%	10.8%	0.0%	4.3%	23.8%	6.7%	23.5%	0.0%
Annunity	8.7	0.0	9.6	56.8	1.7	0.0	66.7	57.8	5.9	55.6
CD/treasury note	0.0	0.0	98.1	43.2	70.7	0.0	14.3	0.0	11.8	75.9
Closed end credit	0.0	0.0	80.8	5.4	86.2	56.5	0.0	0.0	0.0	74.1
Credit insurance	0.0	0.0	86.5	2.7	89.7	91.3	0.0	11.1	0.0	59.3
Credit card	0.0	0.0	76.9	10.8	69.0	4.3	0.0	0.0	5.9	79.6
Disability or health insurance	4.3	0.0	59.6	35.1	93.1	60.9	57.1	84.4	0.0	64.8
Life insurance - term or whole	4.3	0.0	40.4	56.8	39.7	39.1	71.4	93.3	11.8	59.3
Medical insurance	4.3	0.0	11.5	27.0	3.4	4.3	42.9	75.6	0.0	18.5
Money market accounts	4.3	0.0	94.2	54.1	70.7	0.0	52.4	4.4	11.8	96.3
Mutual funds	4.3	0.0	7.7	75.7	0.0	0.0	66.7	22.2	11.8	3.7
NOW/share draft or savings accounts	0.0	0.0	96.2	8.1	94.8	0.0	0.0	0.0	0.0	100.0
Open end credit	0.0	0.0	65.4	2.7	82.8	21.7	0.0	0.0	0.0	51.9
Property-liability insurance	4.3	0.0	23.1	5.4	10.3	26.1	19.0	80.0	5.9	50.0
Real Estate	0.0	0.0	9.6	40.5	41.4	13.0	38.1	8.9	76.5	46.3
Stocks/bonds	0.0	0.0	44.2	59.5	6.9	0.0	38.1	0.0	11.8	11.1
Tax sheltered investments	4.3	0.0	34.6	73.0	46.6	0.0	71.4	20.0	41.2	68.5
Tax preparation	82.6	0.0	7.7	2.7	10.3	4.3	23.8	0.0	0.0	0.0
Trust services	0.0	0.0	34.6	16.2	0.0	0.0	4.8	0.0	0.0	3.7
Wire transfer of funds	4.3	0.0	90.4	21.6	70.7	0.0	4.8	2.2	5.9	64.8
Other	39.1	14.3	17.3	16.2	19.0	4.3	9.5	4.4	5.9	14.8
(n)	(23)	(7)	(52)	(37)	(58)	(23)	(21)	(45)	(17)	(54)

Note. Question # was 2. All tests used nine degrees of freedom.
All relationships are significant at $p \leq .01$.

and was to be filled out by her/him making the firm the unit of analysis.

RESULTS AND DISCUSSION

Out of 615 questionnaires mailed, 337 useable questionnaires were returned for a response rate of 54.8% (see Table 1). The response rate for financial-service providers was 52.3% for urban subjects and 60% for rural subjects. Since comparative and descriptive information was of interest, responses to questions were handled in a dichotomous (yes/no) fashion and contingency table analytical methods were used to examine the statistical relationships of the data.

Initial analyses (chi-square) indicates no statistically significant differences between rural and urban financial-service providers with respect to the products and services they provide. This finding indicates that the financial service needs of rural and urban consumers are being met in a similar fashion. This finding may be explained by the fact that the evolutionary process is still in an embryonic stage in which form any real differences in services provided by rural and urban financial service providers are not detectable. Or, rural financial service providers are participating in the evolutionary process to the same degree as their urban counterparts.

Given the finding of no statistically significant differences between rural and urban respondents, these two groups were combined for additional analyses. Further analyses compared the actual frequencies of products and services provided by the ten categories of providers with the expected frequencies. The findings are contained in Tables 2 and 3. The numbers in the tables represent the percent of respondent firms indicating an affirmative response for each of the questions about specific products and services provided. Chi-square statistics, based on 10x2 contingency tables, were computed to test whether or not statistical differences existed between providers for each product or service asked about.

TABLE 3. Types of Assistance Offered by Agencies or Firms That Assist Clients With Financial Concerns.

Types of Assistance	Agency / Firm Accountancy Firm	Adjustment Agency	Bank	Brokerage Firm	Credit Union	Finance Company	Financial Planner	Insurance Agency	Real Estate	Savings & Loan
Satisfying basic needs	4.3%	28.6%	13.5%	8.1%	13.8%	30.4%	14.3%	20.0%	29.4%	20.4%
Managing overdue bills and debts	8.7	100.0	19.2	2.7	53.4	39.1	9.5	0.0	0.0	13.0
Getting credit or refinancing loans	13.0	42.9	88.5	0.0	94.8	78.3	9.5	0.0	17.6	88.9
Collecting payments owed to you	4.3	0.0	19.2	0.0	12.1	26.1	0.0	2.2	0.0	9.3
Use of services that add to available income	0.0	28.6	3.8	0.0	1.7	0.0	0.0	0.0	0.0	0.0
Protecting consumer interests	4.3	0.0	5.8	0.0	6.9	17.4	0.0	2.2	5.9	0.0
Getting along when out of work	8.7	57.1	21.2	2.7	36.2	26.1	14.3	17.8	0.0	22.2
Financial decisions after divorce or death or spouse	21.7	28.6	25.0	37.8	34.5	30.4	61.9	15.6	11.8	25.9
Budgeting	13.0	100.0	34.6	10.8	43.1	39.1	38.1	6.7	5.9	16.7
Using credit wisely	8.7	85.7	69.2	8.1	93.1	56.5	28.6	0.0	11.8	37.0
Obtain basic insurance protection	8.7	14.3	28.8	16.2	10.3	17.4	61.9	86.7	17.6	46.1
Keeping financial records for taxes	78.3	14.3	19.2	16.2	6.9	4.3	42.9	0.0	0.0	5.6
Claiming SS or pension benefits	8.7	0.0	7.7	5.4	3.4	0.0	33.3	2.2	0.0	5.6
Picking someone to help with financial matters	30.4	28.6	34.6	24.3	20.7	17.4	47.6	4.4	29.4	11.1
Learning about ways to invest in IRA's, Keoghs	56.5	0.0	90.4	83.8	81.0	0.0	95.2	53.3	11.8	92.6
Making a will, handling an estate	4.3	0.0	25.0	18.9	8.6	0.0	33.3	4.4	0.0	3.7
Talking with household about finances	13.0	42.9	32.7	21.6	31.0	13.0	28.6	17.8	5.9	9.3
Planning a major change	30.4	28.6	23.1	35.1	10.3	8.7	81.0	15.6	11.8	18.5
Starting a savings program	8.7	71.4	92.3	40.5	94.8	8.7	71.4	8.9	5.9	94.4
Selecting life insurance, annuity	4.3	0.0	11.5	59.5	5.2	4.3	95.2	80.0	5.9	94.4
Choosing investments	39.1	0.0	48.1	81.1	20.7	4.3	95.2	6.7	41.2	40.7
Conserving income by effective tax planning	65.2	0.0	28.8	59.5	5.2	0.0	95.2	15.6	17.6	13.0
Estate planning	17.4	0.0	21.2	51.4	3.4	0.0	81.0	11.1	11.8	7.4
Establishing long term plans	17.4	14.3	30.8	62.2	15.5	8.7	81.0	13.3	17.6	22.2
(n)	(23)	(7)	(52)	(37)	(58)	(23)	(21)	(45)	(17)	(54)

Note. Question # was 3. All tests used nine degrees of freedom.

X^2 for first type of assistance is not significant.

X^2 for protecting consumer interests significant at $p \leq .05$

X^2 for the remaining types of assistance significant at $p \leq .01$

Firms do differ, as has been the case traditionally, in the type of products offered to consumers. As seen by examining Table 2, similarity of products provided does exist for certain firms. For example, Banks, Credit Unions, Finance Companies and Savings and Loans are all providers of credit insurance whereas the other agencies or firms do not make the product available. However, it is clear that specialization of products is still predominate among financial service providers: accountacy firms in tax preparation; adjustment companies deliver no products; commercial banks, credit unions and savings and loan associations are principally involved in delivering products which have traditionally been provided by them; brokerage firms in investment related products; finance companies in providing credit related products; financial planning firms specialize in providing a combination of investment, risk-management and tax-management products; insurance agencies principally provide risk management products; and real estate companies principally provide real estate related products.

Even though specialization is evident in the data, some signs of firms moving in the direction of providing a fuller range and greater variation of products making for more holistic treatment of consumers' needs do exist in the data. For example, some accountancy firms are branching out by offering risk management and retirement planning products; commercial banks, credit unions and saving and loan associations are providing a greater variety of investment vehicles and are branching out into risk-management tax planning and retirement planning products; insurance agencies are incorporating some investment vehicles into their product mix.

Table 3 contains data indicating the types of assistance provided by financial-service firms. Categories of assistance were included based on categories used in the projects second year questionnaire responded to by consumers. Statistically significant differences were found to exist between firms for types of assistance offered with one exception. Respondents from each firm perceived their respective firm as offering financial assistance geared toward satisfying basic needs. As a result of this common perception, there was statistical difference between firms for this category of assistance. This is an interesting contemporary commentary on what is perceived by financial service providers to be basic needs in our society or how they perceive their services as directly related to such needs.

The differences in assistance between financial service providers support the premise that the financial service industry has not become a sector of firms characterized by homogeneity of assistance with financial concerns. Yet even in the presence of such differences, it is apparent that many providers offer a wide array of assistance. While some accountancy firms do perceive themselves as assisting consumers' with a variety of concerns, the services of most firms are concentrated in the tax planning area. Adjustment agencies are involved in providing assistance directed at helping consumers manage debt and other remedial concerns. Commercial banks and credit unions perceive that they provide an array of assistance that includes all of those listed in Table 3. It is apparent from scanning the columns of data representing banks and credit unions that many of the types of assistance are available at only a small number of these offices.

Brokerage firms are principally involved in providing assistance with investment related concerns. But a few brokerage firms do indicate a much broader array of assistance. Most finance companies are involved in providing consumers assistance with credit needs but many indicate that they provide assistance with a number of other concerns. Insurance agencies are principally involved in helping consumers with risk management related concerns although many indicate diversity in many other areas represented by the list of concerns. Relatively few real estate agencies provide much of the assistance represented in Table 3. The last group, saving and loan associations, while principally involved with providing assistance related to traditional S&L services, many indicated a greater amount of diversity than would be expected.

CONCLUSION

Data were collected from a stratified-random sample of 337 rural and urban Wisconsin financial-service providers. Preliminary answers to many questions resulted from analysis of the data. In the first place, evidence was not found in the data to support rural/urban differences in delivery of assistance with financial concerns. Financial-service needs of consumers in rural and urban areas of Wisconsin are being addressed in a similar fashion by comparable urban and rural financial-service providers. This result may only indicate that traditional services are the same and that many new services have not yet had a chance to be established by providers of financial services in Wisconsin. Only time will reveal whether innovation in financial services will be uniformly distributed across the state into both rural and urban areas.

A second important result gleaned from these data is that firms differ significantly in the products and services offered to Wisconsin consumers. Data contained in Tables 2 and 3 suggest that traditional product and service differences exist based on type of institution. Widely reported similarities of products between firms are not yet evident for the firms examined. However, it does seem to be the case that many of the firms examined in this research are showing signs of incorporating a broader array of both products and services. Such a direction holds promise for consumers in that they are more likely to have their financial service needs addressed in a more holistic fashion by firms with greater diversity of products and services.

REFERENCES

1. Americans and Their Money. (1983). Marshall Leob (Ed.) New York: Time, Inc.

2. Anderson, James C. "Metamorphosis in Financial Services," National Underwriter Life and Health Education Editions. September 22, 1984, #38, pp. 6-7;42-43.

3. Business Insurance. "Financial Planners Offer Variety of Services." September 5, 1983, Vol. 17, #36, p. 27.

4. Business Insurance. "Financial Planning Can Be Offered On a Tight Benefit Budget: Bendor." October 24, 1983, Vol. 17, #43, p. 28.

5. Connolly, Dan Ford. "Selling Financial Services From the Real Estate Office." Business Week. October 15, 1984. #2864, pp. 161-162.

6. North, Carol Fleming. "Don't Spend a Dime on Sales Training...". ABA Banking Journal. September 1984, Vol. LXXVI(76), pp. 50-51.

7. Financial Fitness: Survey Results from the Gallup Poll on Financial Fitness. (1980). Madison, WI.: Cuna Mutual Insurance Group.

8. Kane, Edward J. "Technological and Regulatory Forces in the Developing Fusion of Financial-Services Competition." The Journal of Finance. Vol. XXXIX, #3, July 1984.

9. Maher, Thomas M. "H&R Block Adds Money Management." National Underwriter, Life & Health Insurance. #10, March 10, 1984, pp. 2 & 9.

10. National Underwriter, Life & Health Insurance. #47, November 26, 1983, pp. 8-9.

11. Pedro, Joan Daniels. "Use of, Satisfaction With and Need for Financial Services: A Comparison of Rural and Urban Adults." Agricultural Experiment Station Project #2723. University of Wisconsin: Madison, WI. 1982.

12. Piontek, Stephen. "The Birth of the Registry of Financial Planning." National Underwriters. #42, October 15, 1983.

13. Pokempner, Marc. "The Peril in Financial Services." Business Week. #2856, pp. 52-57, August 20, 1984.

14. Roulac, Stephen E. "Should Real Estate Brokerages Be Supermarkets or Corner Groceries?" Real Estate Review. Vol. 14, p. 78-81, Winter 1985.

15. Stetson, Charles P. "The Reshaping of Corporate Financial Services." Harvard Business Review. pp. 134-142, Sept.-Oct. 1980.

16. Stucker, Jan Collins. "A Financial Planner: Worth the Investment?" MS. Vol. XII, #6. December 1983.

17. Wetzel, Thomas H. "The Insurance Challenge in Financial Services." National Underwriter, Property & Casualty. #29, pp.58-59, July 20, 1984.

18. Wilkinson, S. Identification of and Recommendations for Family Financial Management Counseling, Winnipeg. Unpublished Masters Thesis. University of Winnipeg, 1980.

EMERGENCY FUND HOLDINGS OF U.S. HOUSEHOLDS: EVIDENCE FROM A PARTIAL EQUILIBRIUM ANALYSIS OF SURVEY DATA.

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ABSTRACT

A recursive least squares model incorporating normal or permanent income is used to estimate partial equilibrium of emergency funds for U.S. households for the 1983 Survey of Consumer Finances. The impact of emergencies on the equilibrium is evident. The recursive technique allows examination of determinants of normal income, and demonstrates the relationship between socio-demographic variables and normal income.

INTRODUCTION

In a recent paper, Johnson and Widdows [5] showed that, for the majority of U.S. households, emergency fund holdings were below the three months income equivalent recommended by financial planners. Furthermore, emergency funds, measured as a proportion of household pretax income, had fallen over the period 1977 to 1983. The authors concluded that there may be cause for concern in these findings.

The Johnson and Widdows study was essentially descriptive in nature. While it added to the profile of the current state of consumer finances being developed through analysis of surveys of consumer finances [1,2], it said little about the relationship between observed emergency fund levels and their desired levels. The recent decline in emergency fund levels constitutes a crises for U.S. families only to the extent that emergency funds fall below their desired levels [3].

This paper complements the previous study by Johnson and Widdows by estimating desired levels of emergency funds and then investigating the impact of emergencies on fund holdings. The technique used is one developed by Dunkelberg and Stafford (4) in a study of debt in the consumer portfolio. Desired levels are represented by partial equilibria in regression equations estimated on a disaggregated basis using evidence from a panel study. The approach captures the essence of the more complex stock adjustment models, and is less cumbersome than a generalized portfolio equilibrium model. In addition, the results enable direct comment to be made on the relationship between certain socio-economic aggregates and income levels of households.

THE MODEL

Desired levels of emergency funds are regarded as being principally determined by a household's normal (or permanent) income. That is, there exists an equilibrium level of emergency funds for households that is directly related to household income. In the short run, the actual level of emergency funds can deviate from the desired level depending on current events taking place in the household. More specifically, there is a series of events termed emergencies which can arise in the short run and cause emergency funds to fall below their desired or equilibrium level. Emergency events include crises such as unemployment, marriage breakdown, and ill health [8]. Emergency funds can also be maintained to allow for unexpected opportunities, such as the chance to purchase a consumer durable or investment instrument at unexpectedly favorable terms [6]. In subsequent periods, barring additional emergencies, the emergency fund level will be built up to its desired level.

For the purpose of this study, three alternative proxies for emergency funds are used as dependent variables. These alternatives reflect the fact that emergency funds can be held in assets of varying degrees of liquidity. The first measure, labeled Quick Emergency Funds in Table 2, comprises checking accounts, savings accounts, and money market accounts, all of which are assets that can be turned into cash at very short notice. The second measure, Intermediate Emergency Funds, adds to Quick Funds the value of savings certificates held by the household. The third measure, Comprehensive Emergency Funds adds to Intermediate Funds other financial assets, namely stocks and bonds, which could be encashed to supplement the more liquid assets in Intermediate Funds should the latter prove inadequate to meet needs. It is the most comprehensive of the three measures of emergency funds in terms of range of liquidity of included assets.

The equilibrium emergency fund level can be represented as follows:

$$EF = f(YN;\ E1,\ E2, \ldots, En,\ CF1,\ CF2, \ldots, CFn) \qquad (1)$$

where EF is emergency funds, YN is normal income, E1 through En are short-term emergency events, and CF1 through CFn represent other confounding factors in the relation between emergency funds and normal income, to be explained below.

Following Dunkelberg and Stafford, equilibrium normal income is determined by socio-demographic factors in the household's environment. Normal income reflects factors that the household regards as determining its long run capital or wealth. These factors include such things as skills and training of household members, location of the household, and nonhuman wealth holdings. That is:

$$YN = g\ (SD1, \ldots SDn) \qquad (2)$$

where YN is normal income and SD1 through SDn are salient socio-demographic characteristics of the household.

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Observed income will differ from normal income by transitory components, often termed windfall gains or losses. That is:

$$Y = YN + YT \qquad (3)$$

where Y is observed, or actual household income and YT is transitory income.

Sources and Methods.

Equations (1) and (2) were estimated in the following forms:

$$EF = f1\ (YN;\ UN,\ HE,\ MB,\ SE,\ YT,\ CC,\ H) \qquad (1a)$$

$$YN = g1\ (LC,\ HHE,\ HHS,\ RACE,\ REG,\ URB,\ NHH) \qquad (2a)$$

where

UN = 1 if household head or spouse was unemployed, otherwise 0
HE = 1 if health of either spouse was poor, otherwise 0
MB = 1 if spouses were no longer living together, otherwise 0
SE = 1 if the household had to borrow to meet short-term expenses, otherwise 0
CC = 1 if the household held certain types of credit cards and professed a readiness to use them for emergencies, otherwise 0
H = 1 if the household owned its own home, otherwise 0
LC = life cycle stage of household
HHE = number of years of education of head of household
HHS = 1 if sex of head of household was female, otherwise 0
RACE = 1 if head of household was white, otherwise 0
REG = region of U.S. in which household was located
URB = 1 if household was in a rural district, otherwise 0
NHH = number in household

If households seek to maintain an equilibrium level of emergency funds at a fixed percentage of household income, then the relationship between the dollar amounts of emergency funds held by households and household income will be direct and linear. It therefore is hypothesized that the relationship between emergency funds and normal income will be positive. Unemployment, state of health, marital breakdown and short-term expenses, being emergency events, are hypothesized to be inversely related to emergency fund levels. Transitory income, ownership represent other confounding factors in the relation between emergency funds and normal income.

Transitory income is hypothesized to be directly related to emergency funds in the short run. Positive transitory income, which represents sudden windfall gains, constitutes a resource for the purchase of liquid assets to replenish or build up emergency funds. Negative transitory income may offset by drawing on emergency funds. Over a cross-section of the population, these responses to windfall gains and losses would show up as a positive relationship between transitory income and emergency funds.

Attention has been drawn to the growing use of credit cards as a convenience in transactions [7]. Revolving credit can represent an alternative to cash, checking accounts, savings accounts, and the like for meeting expenses in the short run. It follows from this that a household faced with an emergency could choose to use these reserves either in addition to or instead of emergency funds. As such, access to revolving credit can influence the relationship between emergency funds and normal income.

It will be assumed here that those who use revolving credit as a substitute for emergency funds had incorporated this into their desired emergency fund holdings decision. For this group, the variable EF above should then comprise liquid assets and revolving credit. The measurement of EF adopted for this study (see below) does not allow for this, however. The measure adopted here comprises only the liquid assets portion of emergency funds. For any income level, the group of respondents who use revolving credit in emergencies would thus show up as having less EF funds than they possess in fact. Because of this, the presence of an indicator variable for access to revolving credit should show a negative relationship with emergency funds in equation 2a.

Home ownership is expected to be positively related to emergency funds in that possession of a home necessitates the holding of a greater portion of family income for unexpected expenses. Normal or permanent income is the prime determinant of equilibrium value of emergency funds throughout; the other independent variables represent shift parameters.

It is expected that race, family size, and education will be positively related to permanent income; sex and rural dwelling will be negatively related to permanent income. Life cycle stage, education, and region are expected to be nonlinear in their relation to permanent income. Life cycle stages identified here are young, growing, declining, and retired. The cut off points are determined by age of the head of household. Ages 15 through 29 constitute young, 30 to 44 growing, 45 to 64 declining, and 65 and over retired [9]. Region is determined by geographic location of the household, with the U.S. divided into North East, North Central, South, and West. Education is expected to be quadratic in its relation to permanent income, reflecting varying pay-offs at the margin to additional years of education. Accordingly, a term representing the square of years of education (HHEQ) was added to the equation.

Data for the study were taken from the 1983 Survey of Consumer Finances conducted by the Michigan Survey Research Center. The Survey, a representative sample of 3824 U.S. households, has been described extensively elsewhere [1].

RESULTS

Results are presented in reverse order by equation because equation 2a needed to be estimated first, in order to provide the normal income independent variable for equation 1a.

According to financial analysts, the three months income equivalent referred to earlier is calculated for take-home household income; income net of personal taxes. The 1983 Survey did not include questions related to taxes paid by respondents however. Income data used in this study are therefore pretax. Analysts are not clear on whether the income figure used should be total income or earned income. Accordingly, Table 1 contains results of estimation of equation 2a using total and earned income alternatively as dependent variables.

Results presented in Table 1 show that the equation with total income as dependent variable provided a better fit of the data than did the equation with earned income as dependent variable. The equation with total income as dependent variable produced higher values for the F statistic and R-square of the relation. The regression coefficients for sex, education, race, and number in the household were of the expected direction and significant at least the five percent level in each equation. The rural dwelling variable also had the expected sign, but was significantly different to zero only in the total income equation. A term containing the square of education had a negative sign and was significant at the one percent level.

For the dummy variables for life cycle and region, the excluded variables were the retired stage of the life cycle and the North East region respectively. In the case of life cycle, the peak earnings years of the declining family stage (LC3) showed a significant positive relationship to income in both equations, suggesting that these families had significantly greater earned income than retired families, while young families had significantly less total income than did retired families. The region variables were not significantly different to zero on either equation.

The fact that income data were in dollar amounts allows straightforward ceteris paribus interpretation of some of the regression coefficients in Table 1. Thus, female headed households on average had $12,645 less of total income and $13,420 less of earned income than did male headed households. White families had $5,502 more of total income and $5,427 of earned income than did non-white families. Urban families had $3,685 more of total income than did rural families. Finally, families whose head was in the peak earning years of the life cycle had $3,963 more of total income and $10,429 more of earned income than did retired families, while young families had $11,849 less of total income than did retired families.

Regression coefficients in Table 1 were used to predict normal income of households. Predicted normal income appeared as an independent variable in equation 2a. Results of the estimation of equation 2a are shown in Table 2.

Equation 2a (Table 2) was estimated first with total normal income as independent variable, then with earned normal income as independent variable. For all three measures of emergency funds, the equation fitted data better when total normal income was used as independent variable rather than earned normal income. Indeed, the regression coefficient for earned normal income was not significantly different to zero at the five percent level for any of the emergency fund measures. Total normal income was directly and significantly related to all three measures of emergency funds.

Three of the four indicators of emergency events (UN, HE and SE) had the hypothesized inverse relationship with emergency funds in all versions of the earned income equation, but were not always significantly different to zero. Only the short-term borrowing variable (SE) consistently had the expected sign in the total income equations. Results of the earned income equation indicate that a household faced with unemployment would, ceteris paribus, reduce Quick Emergency Funds by about $1,200 and Quick Funds plus savings certificated (Intermediate Funds) by about $4,000.

The marital breakdown variable was positive in sign and significantly related to emergency funds in all of the total income equations, but varied in sign and was not significant in the earned income equations. These contradictory findings may be attributable to the inapposite nature of the proxy for marital breakdown rather than any perversity in the relationship between marital breakdown and emergency fund holdings. The questionnaire requested information on marital status of the household, allowing identification of households that had suffered death, divorce, or separation. Unfortunately, no time element was available. It may be that the breakdowns had not occurred recently enough for the impact on emergency funds to be measurable.

Transitory income bore the expected positive relationship to emergency funds in all equations estimated, and except in one case (Quick Funds and earned transitory income), was significantly different to zero at at least the five percent level. This relationship was expected, and indeed is the essence of the permanent income hypothesis.

In all but one equation (Comprehensive Funds in the total normal income equations), home ownership bore the expected positive relationship with emergency funds and was significant at the one percent level. Credit card holding was also significant, but the sign varied between the two sets of equations. On the total income equations, credit card holding bore the expected negative relationship to emergency funds, indicating a tendency among families to use revolving credit as an emergency fund. Results of the earned income quations, however, pointed to a positive relationship between revolving credit and emergency funds.

Results of the earned income equations, however, pointed to a positive relationship between revolving credit and emergency funds. Those respondents who owned cards and professed a willingness to use them in emergency situations actually had higher equilibrium emergency fund holdings than other respondents. This runs counter to the hypothesis that consumers use revolving credit as an alternative to liquid assets as a means of holding emergency funds. That a positive relationship should have emerged in equations where earned income appeared as an independent variable points to degree of sophistication in consumer attitudes toward revolving credit, a fruitful avenue for further study.

CONCLUDING COMMENTS

A recursive regression process allowed estimation of the equilibrium relationship between normal income and emergency funds, and enabled a measure of the relationships between socio-demogralpic characteristics of consumers and income, and emergency events and diversions of emergency funds from their equilibrium levels. Estimated relationships between socio-demographic characteristics and income were generally as expected from earlier analysis of survey data [1,2]. Unemployment, the need to borrow to meet short-term expenses and, in the earned income equations only, poor health caused significant diversion of emergency funds from their equilibrium relationship to total normal income.

Equations using total income generally fitted data better than did those using earned income. The implication is that consumers are more cognizant of total income when assessing their financial position. This was the case also where the relationship between revolving credit and emergency funds was concerned. At the same time, equations with the Intermediate Funds measure of emergency funds as dependent variables provided strongest evidence consistent with expected relationships between emergencies and emergency funds. This finding implies that consumers met emergencies principally by running down these intermediate liquid assets.

Finally, although results are confined to one sample year, they are sufficiently instructive to confirm the usefulness of this approach to the study of panel data. Future work will investigate wealth effects on emergency fund holdings, and incorporate a two-stage least squares approach to overcome possible simutaneous equations bias in the single equation studies.

TABLE 1. Estimation of normal income of households.

Variable	Total Normal Income	Earned Normal Income
Life Cycle 1	-11849.2** (1854.9)	-978.1 (3319.2)
Life Cycle 2	-2580.4 (1877.0)	9559.6** (3359.2)
Life Cycle 3	3963.4** (1763.2)	10429.3** (3149.1)
Education	3324.6** (1229.2)	2569.7** (408.8)
Square of Education	-30.7** (2.3)	-24.0** (4.1)
Sex	-12645.2** (1264.2)	-13420.2** (2255.0)
Race	5501.7** (1399.9)	5427.3** (2492.3)
Region 1	1835.4 (1721.4)	2223.6 (3068.8)
Region 2	-730.2 (1593.6)	3336.5 (2841.6)
Region 3	-1019.6 (1557.2)	1688.1 (2777.9)
Rural/Urban Living	-3685.4** (1149.0)	-1318.2 (2049.2)
Number in Household	1460.9** (370.3)	1189.8* (660.1)
Unearned Income		.001 (.010)
CONSTANT	-11790.4** (3088.0)	-17918.0** (5507.8)
R^2	.21	.07
F	51.04**	13.90**

**=.01 *=.05

TABLE 2. Estimation of the relationship between emergency funds of households and total normal income, earned normal income.

	Quick emer. funds	Inter-mediate funds	Compre-hensive funds	Quick emer. funds	Inter-mediate funds	Compre-hensive funds
Total normal income	.158** (.015)	.492** (.038)	1.784** (.156)			
Earned normal income				-.006 (.018)	-.057 (.047)	-.028 (.199)
Transit income	.155** (.007)	.502** (.018)	2.246** (.073)	.003 (.002)	.015* (.006)	.091** (.002)
Unem-p'ment	-609.0 (582.4)	-1741.4 (1484.9)	1213.1 (6138.4)	-1220.0* (625.4)	-3634.0* (1660.1)	-8129.2 (6977.7)
Short-term expenses	-657.6 (665.0)	-3568.4* (1695.7)	-8296.5 (7009.4)	-713.7 (712.0)	-3567.8* (1890.7)	-9609.2 (7943.1)
Health	103.6 (657.5)	2639.3 (1676.5)	12487.0* (6930.4)	-1269.9* (681.5)	-2397.5 (1809.7)	-6149.7 (7603.0)
Marital break	1671.7** (480.9)	6364.2** (1226.1)	17787.0** (5068.5)	82.8 (498.6)	1071.9 (1324.0)	-1397.8 (5562.6)
Credit cards	-758.9* (441.8)	-2019.2* (1126.6)	-15364.2** (4657.1)	1594.7** (455.6)	5410.4** (1210.1)	13962.4** (5083.8)
Home owner	1230.4** (415.6)	2618.4** (1059.8)	-5702.8 (4380.8)	2704.3** (458.0)	7654.8** (1216.3)	13677.3** (5109.7)
CONST.	-822.2 (480.1)	-4599.5** (1224.3)	-19796.5** (5060.8)	1396.9** (481.4)	2702.4* (1278.4)	3866.7 (5370.7)
R^2	.19	.27	.28	.03	.04	.02
F	76.08**	118.90**	122.66**	11.58**	14.74**	6.06**

**=.01 *=.05

REFERENCES

1. Avery, R.B., G.E. Elliehausen and G.B. Canner, "Survey of Consumer Finances, 1983." Federal Reserve Bulletin, Sept. 1984, pp. 679-92.

2. Avery, R.B., G.E. Elliehausen and G.B. Canner, "Survey of Consumer Finances, 1983: A Second Report." Federal Reserve Bulletin, Dec. 1984, pp. 857-68.

3. Bryant, K.W. "Asset and Debts in a Consumer Portfolio." Monograph, New York State College of Human Ecology, Cornell University, 1984.

4. Dunkelberg, W.C. and F.P. Stafford, "Debt in the Consumer Portfolio: Evidence from a Panel Study." American Economic Review, 61(4) 1971, pp. 598-613.

5. Johnson, D.P. and R. Widdows, "Emergency Fund Levels of Households." Proceedings of the 31st Annual Conference, American Council on Consumer Interest, Fort Worth, TX, 1985, pp. 235-41.

6. Johnson, D.P. and R. Widdows, "Planning and Targeting Investment Programs to Meet Audience Needs." Proceedings of the 14th Annual Conference, Southeastern Region Association Family Economics/Home Economics Conference, Baton Rouge, LA, 1985, pp. 70-5

7. Luckett, C.A. and J.D. August, "The Growth of Consumer Debt." Federal Reserve Bulletin, June 1985, pp. 389-402.

8. Morgan, J.N., "The Reuistribution of Income by Families and Institutions and Emergency Help Patterns." In G.J. Duncan and J.N. Morgan, "Five Thousand Families - Patterns of Economics Progress." Survey Research Center, University of Michigan, 1983, Chapter 1.

9. Smythe, K.D., "An Approach to Determining 'Safe' Levels for Family Credit Committments." Journal of Consumer Affairs 2(2) 1968, pp. 167-81.

MEASURES OF ECONOMIC WELL-BEING
HUSBAND AND WIFE CONSENSUS

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INTRODUCTION

The need for appropriate indicators of family economic well-being has been established (7,9). Considerable effort has thus been made to identify measures which can correctly assess a family's economic well-being (3,4,7,8,9,10,13). The results include both objective and subjective measures. Due to the high cost of research it is common to survey or interview only one family member. Concern exists, however, over the consensus between husbands and wives when responding to questions asked by the researchers (1,2,5,6,11,12). The purpose of this paper is to explore the agreement between the husband and the wife on various measures of economic well-being.

The remainder of this paper includes a brief discussion of the conceptualizations of economic well-being and the needed measures. Also included is a brief review of literature on husband and wife consensus. The samples were selected from two separate studies in which participants were asked to provide answers to similar questions.

CONCEPTUALIZATION OF ECONOMIC WELL-BEING

Research involving economic well-being appears to focus on three conceptualizations : income adequacy, economic security, and perception of economic well-being. Moen (7) suggested that indicators of well-being consist primarily of objective and subjective measures both of which can provide indicators of actual well-being and relative well-being. Income adequacy and financial security are operationalized using objective measures. Probably the most simple indicator of actual income adequacy is based only on a measure of income from wages, salary and other sources. Frequently this value is adjusted to reflect the needs of a household for that income compared to other households based on size and composition (8). Some researchers have compared a family's income during one year to that family's income during the past year to achieve an indicator of relative deprivation (3,7).

Despite the increased specificity of the income to needs and relative deprivation ratios, they do not necessarily reflect the long term or potential economic resources of a family. A measure of economic welfare was used by Weisbrod and Hansen (13) to assess potential income or an objective measure of financial security. This indicator was derived by adding current annual income to a lifetime annuity value calculated from current net worth, life expectancy, and rate of return. In addition to the measure of income, measures are needed for the value of a family's assets and liabilities.

There is concern that objective measures of income, be they measures of short term adequacy or long term security, do not reflect how an individual feels about the economic resources available. Subjective measures of well-being have been found to be as important, if not more so, than objective indicators of economic well-being. Perceptions of income can reflect short or long term well-being as well as well-being relative to the past, the future and relative to others.

A major regional research project, "Patterns of Living Related to Income Poverty in Disadvantaged Families" was instrumental in the development of indicators on perception of income adequacy. Another major regional study, "Quality of Life as Affected by Area of Residence" utilized those and other satisfaction indicators (4). Household members were questioned concerning their perception of the adequacy of their income; their satisfaction with various aspects of economic life such as standard of living, prospects for retirement, housing, and networth; and their perception of their future financial status.

Most measures of perceived well-being consist of one or two items designed to elicit satisfaction with a specific aspect of well-being such as level of income, level of debt, amount of savings, or prospects for retirement (4). Others have explored well-being using several items designed to elicit satisfaction with material goods or satisfaction with resources in general (10).

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HUSBAND AND WIFE AGREEMENT

Previous research has indicated that agreement of husbands and wives on various demographics and attitudinal survey questions cannot be relied upon (4,2,11,12). Ballweg (1) distinguished between nonevaluative, or hard data, and evaluative or soft data. Specifically, he studied the responses of 179 couples to two questions -- one considered hard data and on soft data. As expected considerable differences were found between couple consensus. The question dealing with family income was viewed as hard data and was found to have husband and wife consensus greater than 60 percent of the time. The soft data question was concerned with which parent had the final say in child discipline. Only 23 percent of the couples were in agreement in their responses to this question. Fairly high levels of husband and wife consensus on income also were observed by Ferber (5) and Haberman and Elinson (6).

Several studies also have looked at consensus between husbands and wives on various attitudes. Byrne and Blaylock (2) concluded from a study of 36 married couples that similarity in political attitudes and in more general attitudes existed among these couples. Van Es and Shingi (12) studied the consensus of 324 husbands and wives on twenty-five attitude questions. They concluded that where attitudes are concerned it should not be assumed that either the husband or the wife can represent the whole family. They noted, however, that when the attitude is somewhat culturally determined more consensus occurs among husbands and wives.

Safilios-Rothschild (11) studied 160 families from Detroit. Detroit husbands' and wives' responses about decision making showed that less than half of the couples agreed or slightly disagreed on their responses. This meant that actual serious disagreement was found in 55.1 percent of the cases.

METHODOLOGY

The data for this paper were collected during two separate research studies. The Tucson, Arizona sample is based on a random selection of the general population whereas the Bagdad, Arizona sample consists of couples experiencing unemployment. Specifics on the data collection for each group follows:

Tucson Sample. Names and addressed of one thousand Tucson area residents were selected randomly from the Tucson, Arizona metropolitan area telephone directory using a table of random numbers. Two identical questionnaires were sent to each address during the summer of 1984. A letter accompanying the questionnaire requested that, when applicable, two adult household members each complete a questionnaire and return it in the self addressed, stamped envelope. A follow-up reminder was sent two weeks following the initial mailing. Due to the sensitivity of the financial focus of the questionnaire a small return was expected. A 21-percent return rate was obtained resulting in 211 households represented. Of that number 70 or 33-percent were from husband and wife couples. The resulting sample of seventy couples somewhat overrepresented white/anglo families.

Bagdad Sample. Bagdad, Arizona was selected for an intensive study of several families who had recently experienced the unemployment of the primary breadwinner due to major layoffs from the Bagdad Cyprus Copper mine. The economic structure of Bagdad had been built around the mine.

This sample is made of two groups: those who remained in Bagdad following the layoff and those who moved within three months of the layoff. The couples who remained in Bagdad participated in an interview and completed questionnaires. The couples who had moved completed only the questionnaires. A total of 44 couples participated in the study. Information on the Bagdad sample can be obtained from the authors.

MEASURES

Objective Measures Identical questions were included on the questionnaires given to both the Tucson and Bagdad samples to provide objective measures of economic well-being. Income measures were obtained by asking respondents to write-in the amount of wages during 1983 for the male income earner, the amount of wages during 1983 for the female income earner, and the amount of income during 1983 from all additional sources. Expected income measures were obtained by asking respondents to write-in the amount of income expected during 1984 for the male income earner and for the female income earner.

Dollar value of assets and liabilities were obtained. Participants were first asked to indicated whether or not their family had a series of thirteen types of savings and investments and then to write-in the total dollar value of these investments. Respondents also were asked to write in the current dollar amount of their checking account, the market value of their car(s) and the market value of their home. Finally, the respondents were asked to write-in the dollar value of the outstanding balance on the home mortgage and also the amount of their personal debt.

Subjective Measures. All measures of subjective well-being were answered using a likert type response set. Four questions designed to assess individual perception of economic well-being were similar for both samples. Those questions were designed to determine perception of well-being relative to the past, the future, and other families.

The Bagdad sample also received a series of questions concerned with the participants satisfaction with various economic factors including level of income, money for necessities, ability to handle financial emergencies, amount of debt, amount of savings, and money for the future.

In addition to the four subjective measures of relative well-being the Tucson sample received questions concerned with perception of income adequacy, satisfaction with level of living, and perception of present economic status. Two satisfaction indices were included on the questionnaire given to the sample of Tucson residents. The first index consisted of 14 items to which families frequently allocate their money. Respondents were asked to indicate, using a 5-point scale, satisfaction with their ability to acquire these items. The second index designed by Rowland and Nickols (10) consisted of 29 resources frequently available to families. Respondents were asked to indicate agreement or disagreement (on a 5-point scale) based on their opinion of the adequacy of those resources for their family.

FINDINGS

Objective Economic Measures

When examining mean scores husbands as a group tended to report higher levels of actual and expected income than did the wives as a group. Husbands also tended to report higher values for their financial and tangible assets. This pattern was consistent for the reporting of debt by the Bagdad sample. Wives in the Tucson sample reported higher personal debt than did their husbands (Table 1).

Table 1. Mean Scores of Husband and Wives as a Group on Objective Measures of Economic Well-Being. Tucson and Bagdad Samples.

	Tucson Sample		Bagdad Sample	
Economic Measures	Mean Score Husbands	Mean Score Wives	Mean Score Husbands	Mean Score Wives
1983 Male Income	$23,318.03	$18,294.03	$26,024.17	$24,545.18
1983 Female Income	$6,698.04	$6,663.50	$3,755.55	$3,239.43
1983 Additional Income	$7,859.71	$4,318.84	$8,300.59	$8,766.67
1984 Expected Male Income	$24,271.88	$20,598.12	$14,911.06	$13,623.81
1984 Expected Female Income	$6,625.93	$6,194.81	$2,398.56	$3,123.44
Dollar Value of Investments	$46,669.29	$34,016.74	$21,030.51	$18,842.24
Dollar Value of Checking	$3,860.60	$781.06	$459.19	$469.26
Dollar Value of Cars	$7,070.00	$6,260.15	$5,896.34	$6,296.34
Market Value of Home	$83,634.29	$77,656.72	$11,873.83	$8,522.73
Amount Owed on Mortgage	$33,348.15	$31,348.15	$7,105.00	$3,205.00
Total Amount of Personal Debt	$5,988.64	$6,972.57	$8,251.79	$4,561.13

When using Pearson's Correlation, individual couples from both samples had moderate to high levels of agreement on the amount of income earned by each. Similar correlations resulted for the responses of husbands and wives concerning expected amounts of income for the upcoming year. Husbands and wives also agreed on the dollar value of their tangible assets (car and home). Agreement on the amount of money in the checking account was low, yet significant, for the Bagdad sample. However, responses of the Tucson residents resulted in a negative correlation between the responses of the husband and the responses of the wife on this measure. This relationship was not significant. Husbands and wives also agreed on the amount owed on their mortgage. Correlations were significant, yet low, on their agreement of personal debt levels (Table 2).

Table 2. Pearson Product Moment Correlations for Husband and Wife Responses on Objective Measures of Economic Well-Being.

Economic Measure	Tucson Sample	Bagdad Sample
1983 Male Income	.6828*	.5214*
1983 Female Income	.9633*	.7935*
1983 Additional Income	.5457*	.8646*
1984 Expected Male Income	.6892*	.8138*
1983 Expected Female Income	.9518*	.6105*
Dollar Value of Checking	-.0186	.3334***
Dollar Value Investments	.4821*	.9235*
Market Value of Home	.9288*	.8384*
Amount Owed on Mortgage	.9620*	.4053**
Total Amount of Debt	.2991**	.4053**

* Significant p<.001
** Significant p<.01
*** Significant p<.05

Subjective Economic Well-Being. When examining mean scores in the Tucson sample, couples were in fairly close agreement. Husbands as a group had just slightly less satisfaction with their present economic situation (adequacy, level of living, comparison of financial situation compared to the last five years) than did the group of wives. This same group of husbands, however, was more likely than the wives to report positive comparisons between their family and other families in Arizona and in the U.S. The husbands were also more likely to express a positive attitude toward prospects for the next five years (Table 3a).

Table 3a. Mean Scores of Husbands and Wives on Common Measures of Subjective Economic Well-Being. Tucson Sample.

Subjective Measures	Mean Score Husbands	Mean Score Wives
Income Adequacy	2.29	2.34
Level of Living	2.84	2.99
Economic Status	2.59	2.58
Financial Situation Last Five Years	2.35	2.49
Financial Situation in Five Years	2.69	2.62
Income Compares to Arizona Families	2.49	2.34
Families' Ability to Purchase Goods as Compared to U.S. Families	2.53	2.37

Similar to the Tucson sample the group of husbands from the Bagdad sample were more likely to make positive comparisons between their family and other families than were the wives. In this sample, however, the wives were a bit more likely to express optimism for the future than were the husbands. As for their present economic situation husbands and wives varied on satisfaction depending on the situation being assessed (Table 3b).

There was considerable agreement between husbands and wives on perceptions of economic well-being as indicated by significant correlations in the medium to medium-high range. Correlations concerned with an individual's satisfaction with various amounts of money (income adequacy, level of living, level of income, level of savings, etc.) were similar for both the Tucson sample and the Bagdad sample. However, husbands and wives in the Bagdad sample were less likely than the Tucson sample to agree on their perceptions when asked to compare their financial situation to the past, the future, and to other families (Table 4).

Two additional indices were included in the survey given to the Tucson sample to assess satisfaction with resources. The first index was concerned with the extent to which individuals were satisfied with their ability to make purchases of specific items frequently owned or purchased by families. The second index was designed to assess satisfaction with various financial factors as well as other resources important to families.

Overall, significant positive correlations were found for the responses between husbands and wives on the first index (Table 5). Where financial issues (savings, ability to save, retirement, and insurance) were concerned moderated levels of correlations were found. Correlations were somewhat higher for the items concerned with the family's ability to acquire basic needs (food, clothing, home furnishings, housing space, medical care). Similar correlations were found for discretionary items such as travel and recreation. Low correlations resulted for education and transportation.

The second index was directed toward assessing perceptions that individuals have regarding the availability of various types of resources such as financial, knowledge, internal, external and housing resources (Table 6).

Correlations between husband's and wive's responses were moderate for the financial items concerned with unexpected expenses, income to cover regular expenses, ability to save and adequate credit, retirement, and insurance. Similar correlations were previously noted with the respondents' satisfaction with their ability to acquire these resources.

Correlations on those items identified as knowledge resources were low. While no

Table 3b. Means Scores of Husbands and Wives on Common Measures of Subjective Economic Well-Being. Bagdad Sample.

Subjective Measures	Mean Score Husbands	Mean Score Wives
Level of Income	2.11	2.07
Money for Necessities	2.14	2.18
Ability to Handle Financial Emergencies	2.25	2.36
Amount of Debt	2.34	2.55
Level of Savings	1.57	1.58
Money for Future	1.43	1.34
Financial Situation Last Five Years	2.07	1.61
Financial Situation in Five Years	2.80	2.98
Family Income Compared to Arizona Families	2.11	1.91
Ability to Make Purchases Compared to U.S. Families	1.81	1.74

significant correlation was found for the perception that knowledge was adequate for the work done, a low yet significant correlation was found for the perceived ability to perform repairs. There was low agreement in the adequacy of education to meet long term goals. Husbands and wives were in somewhat greater agreement on their knowledge to care for finances.

Table 4. Pearson Product Moment Correlations of Husband and Wife Responses to Subjective Economic Well-Peing Measures. Tucson and Bagdad Samples.

Subjective Sample	Tucson Sample	Bagdad Sample
Income Adequacy	.7188*	---
Level of Living	.5595*	---
Economic Status	.6560*	---
Level of Income	---	.6225*
Money for Necessities	---	.6579*
Ability to Handle Financial Emergencies	---	.4329**
Amount of Debt	---	.5977*
Level of Savings	---	.6987*
Money for Future	---	.5992*
Financial Situation (last 5 years)	.6864*	.4138*
Financial Situation (next 5 years)	.5795*	.4580*
Financial Situation compared to Arizona	.8158*	.4454*
Ability to Purchase U.S.	.7563*	.3716***

* Significant p=.001
** Significant p=.002
*** Significant p=.007

Responses of husbands and wives on items assessing the availability of internal resources such as time, energy, and health were low. Significant correlations were found for husbands and wives on their responses to time availability, health, and trust but not for the availability of personal energy.

When examining the correlations on the perceived availability of external resources, husbands and wives tended to have low, yet significant agreement on the availability of friends, neighbors and relatives to help. They also tended to agree on the desirability of their community. Agreement was not significant between husbands and wives on the availability of professionals to help when needed.

The responses of husbands and wives to the perceived availability of housing resources resulted in significant correlations. Greater agreement existed on the issue of interior housing space than on exterior space, household equipment, and the house itself.

The second index includes several items similar to those on the first index. Similar correlations were found for husbands and wives on their responses to similar items on both indices (ability to save, retirement, insurance, housing space). In the instance of housing and education, correlations were somewhat less between husbands and wives on the second index. Interestingly, quite different correlations were found for the recreation item. Husbands and wives tended to show moderate agreement on their satisfaction with their ability to have and purchase recreation, whereas, there was an indirect relationship between their responses when asked to indicate their agreement or disagreement with having enough energy for recreation.

Table 5. Means Scores and Correlation of Husbands and Wives or Satisfaction with Ability to Own and Acquire Goods. Tucson Sample.

Satisfaction Measures	Mean Score Male	Mean Score Female	Correlation
Food	3.59	3.65	.8209*
Clothing	3.06	2.88	.7593*
Home Furnishings	2.80	2.52	.7741*
Housing	3.13	3.06	.7185*
Housing Space	3.22	3.00	.7045*
Recreation	2.80	2.82	.6383*
Medical Care	3.01	3.09	.6676*
Transportation	2.97	3.16	.4442*
Travel	2.45	2.43	.6368*
Education	3.22	3.11	.3496*
Savings	2.30	2.22	.6124*
Ability to Save	2.09	2.24	.6015*
Retirement	2.37	2.52	.5897*
Insurance	2.77	2.79	.5382*

* Significant p=.001
** Significant p=.002

Table 6. Means Scores and Correlation of Husbands and Wives on Satisfaction with Available Resources. Tucson sample.

Satisfaction Measures	Mean Score Husbands	Mean Score Wives	Correlation
Time for Leisure	2.55	5.45	.4608*
Financial Resources to Meet Unexpected Needs	2.49	2.41	.6412*
Adequate Space in Home For Family Needs	3.23	3.25	.7423*
Adequate Knowledge for Work Done	3.61	3.60	.1457
Friends Who Can Help	2.28	2.60	.3881*
Adequate Community Facilities for Family Needs	3.04	3.01	.3665*
Income Covers Expenses	3.19	3.10	.4824*
Enough Time To Do What Is Desired	2.35	2.28	.4692*
Adequate Energy for Activities	2.96	2.88	.1862
Community Professions Are Helpful	2.50	2.44	.0624
Health Allows Me to Work	3.48	3.42	.3127**
Relatives Are Helpful	2.44	2.34	.3168***
Adequate Equipment in Our Home to Meet Needs	3.43	3.52	.3812*
House Meets Needs	3.30	3.25	.4877*
Neighbors Help	2.73	2.87	.5422*
Education to Meet Long Term Goals	3.12	2.82	.2199***
Know How to Care of Finances	3.35	3.46	.5012*
Adequate Credit	3.51	3.58	.7544*
Time for Housework	3.01	2.83	.3552*
Community Good Place to Live	3.18	3.03	.3912*
Knowledge to Perform Repairs	3.32	3.10	.3295**
Time to Help Others	2.96	2.85	.2857**
Know and Trust Judgements of Others	3.29	3.39	.3042**

Table 6. (continued)

Satisfaction Measures	Mean Score Husbands	Mean Score Wives	Correlation
Energy for Recreation	3.19	2.91	-.1383
Can Save Money	2.32	2.39	.6637*
Outdoor Space Meets Needs	3.15	3.12	.3999*
Health to do What I Want	3.35	3.29	.3920*
Adequate Retirement	1.86	1.99	.6630*
Adequate Insurance	2.84	2.80	.5520*

* Significant p<.001
** Significant p<.01
*** Significant p<.05

CONCLUSION

The purpose of this paper was to explore the agreement between husbands and wives on various measures of economic well-being. The findings indicated that overall the responses of husbands and wives to various measures of economic well-being were significantly similar.

The correlation of husband and wife responses to objective measures, or hard data, tended to be higher than those for subjective measures, or soft data. These findings basically support those of other studies which suggest a higher spousal agreement on hard data rather than soft data measures.

The correlations of husband and wife responses to subjective measures varied depending on the personal versus family orientation of the measure. Stronger agreement was usually found on perceived satisfaction measures which had a family orientations such as adequacy of income. Lesser agreement was noted on the perceptions of other more personal resources such as time and energy.

The results are fairly consistent across two different samples. It appears that when family economic resources are concerned either the husband or the wife may be a reliable source of information. One cannot disregard, however, that the responses were not perfectly correlated indicating that there were indeed differences in the responses of husbands and wives.

REFERENCES

1. **Ballweg, J. A.** "Husband-Wife Response Similarities on Evaluative and Non-Evaluative Survey Questionnaires," **Public Opinion Quarterly**, 1969, 33:249-254.

2. Byrne, D. and Blaylock, B. "Similarity and Assumed Similarity of Attitudes Between Husbands and Wives," Journal of **Abnormal and Social Psychology**, 1963, 67:636-640.

3. Cramer, S. L. "The Relationship of Economic Welfare and Perceived Financial Adequacy and Satisfaction of Midwestern Urban, Retired Families." **Proceedings of the American Council on Consumer Interests**, 28th Annual Conference, April 21-24, 1982, 44-49.

4. Dunsing, M. M. (Ed), **Proceedings of the Symposium on Perceived Economic Well-Being**, University of Illinois at Urbana-Champaign, 1983.

5. Ferber, R. "On the Reliability of Response Secured in Sample Surveys," **Journal of the American Statistical Association**, 1955, 50.

6. Haberman, P. and Elinson, J. "Family Income Reported in Surveys: Husbands Versus Wives," **Journal of Marketing Research** 1967, 4:191-194.

7. Moen, P.s, "Developing Family Indicators," **Journal of Family Issues**, 1980, 1:5-30.

8. Orshansky, M. "Counting the Poor: Another Look at the Poverty Profile," **Social Security Bulletin** Department of Health, Education and Welfare, 1965, 3-29.

9. Quinn, J. F. "The Economic Status of the Elderly: Beware of the Mean," keynote address for the 1983 Family Economics-Home Management Workshop, Madison, WI, June 2-25, 1983.

10. Rowland, V. T. and Nickols, S. Y. Perceived Adequacy of Resources Scale. Personal Correspondence.

11. Safilios-Rothschild, C. **Family Sociology or Wives' Family Sociology.** Report No. 4, the Center for Developmental Studies in Cognition, The Merril-Palmer Institute, 1968.

12. Van Es., J. C. and Shingi, P. M. "Response Consistency of Husband and Wife for Selected Attitudinal Items," **Journal of Marriage and the Family**, November 1972, 741-749.

13. **Weisbrod, B.** A. and Hansen, W. L. "An Income - Net Worth Approach to Measuring Economics Welfare, **American Economic Review**, 1968, 58:1315-29.

DISCUSSANT: FINANCIAL MANAGEMENT

Peggy S. Berger, Colorado State University[1]

This series of financial management papers explores several consumer needs: the need for funds to meet emergencies and the need for various financial services to handle not only emergencies. but everyday financial matters. A somewhat different need was addressed in the third paper--the need of researchers to assess what is meant by family research and whether one respondent can speak for the family on measures of economic well-being.

Each paper builds on previous research or utilizes data collected for study of broader research questions not reported here. This approach is commendable in building a knowledge base in any discipline. Mullis and Pedro report on data from the third year of a project addressing financial services' availability and use in Wisconsin. Widdows and Johnson move from a paper given at last year's ACCI conference showing the relation of socio-demographic characteristics to emergency fund levels of families to a more sophisticated statistical treatment of their data. Their recursive least squares model allows the estimation of a desired or equilibrium level of emergency funds based on the household's normal (permanent) income. Wilhelm and Iams successfully bring together data from two separate research studies to address a question of interest to family researchers over a number of years: who speaks for the family? Issues and questions raised in two of the papers are now addressed in more detail.

Mullis and Pedro: Meeting Consumers' Needs: Commercial Enterprises Offering Assistance with Financial Concerns.

This ambitious, comprehensive survey of the availability of financial services for urban and rural Wisconsin consumers must have produced a wealth of information addressing the current status of these services. With ten objectives for the study of the ten financial service providers, a challenge for the researchers will be to package the results for the most effective use by end users: the providers of services, consumers, consumer advocates and educators, and public policy developers or evaluators.

The researchers found support for the "charge of prevalent piecemeal financial services" and asked "Is this in the consumers' best interest?" An underlying assumption appears to be that multiple service financial institutions are better for consumers than single service institutions--in fact, that all of the products and services studied might conceivably be found in one location. Is the ideal situation, then, a one-stop financial service marketplace where we purchase an annuity, obtain a credit card and refinance a loan, buy medical insurance, get estate planning advice, make a will, have a tax-return prepared, and the list goes on? Is there a place for the single professional--lawyer, tax accountant, financial planner--or should these professionals all be connected with a financial conglomerate? In this connection, it is unclear whether the findings were somewhat limited by the specific institutions studied; e.g., were Sears and other companies having multiple services included? If so, was the respondent (manager or president) instructed to reply based on a particular service or total services offered? Even if one-place financial marketplaces were available, whether consumers could assume that the best advice and products could be found together is debatable.

The researchers concluded that different types of firms do differ significantly in the types of services offered. An unanswered question is to what extent this is a function of the types of agencies included? Would anyone going to an adjustment agency or an accountancy firm, for example, be disappointed if they could not obtain a credit card there? Perhaps a better question is what percentage of the reasonably logical products or types of services that could be offered by a given firm or agency was offered? This approach could give a more accurate picture of whether consumers' needs and expectations were being met.

Wilhelm and Iams: Measures of Economic Well-Being: Husband and Wife Consensus.

Wilhelm and Iams used data from two separate studies to deal with the issue of consensus between husband and wife when asked the same question. The two studies allowed consensus to be studied on hard (objective) and soft (subjective) data relating to the families' economic well-being. Care was taken not to make generalizations across the samples, but rather to compare husbands' and wives' responses within the same sample.

For at least several decades, researchers have questioned whether family research does indeed represent families or instead the perception of one individual (usually the wife until she too joined the out-of-home work force) about the way the family thought, felt, or acted. Nevertheless, one person has frequently been questioned because of the costs in dollars and researcher's time to do otherwise. Broader issues are raised by this and other research dealing with consensus.

One is whether family research in which two or more members are questioned is worth the extra cost. Obtaining complete data from two or more family members becomes difficult as possibilities of refusals, absences, incapacitation, etc., multiply. Even if two members do respond, the chances for their collaboration cannot be ignored unless each is interviewed in the absence of the other.

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A second concern is whether family research is not still limited if the population of a study is limited to, for example, an intact couple or a couple with at least one child capable of responding to a questionnaire or interviewer. The "family" data collected may be relevant or generalized to only a small percentage of the total U.S. population.

A third issue is how to analyze the data collected from two or more family members so that it is representative of the family unit, a task somewhat more challenging than working with one response per household.

Wilhelm and Iams conclude that either the husband or the wife may be a reliable source of information about family economic resource matters but that spousal agreement is higher on hard/objective than on soft/subjective data. Perhaps we should not expect complete agreement on subjective data. Persons can legitimately have different perceptions, attitudes, and opinions about the adequacy of savings or the family's ability to handle emergencies. Complete agreement on hard data, e.g., where specific dollar amounts are involved as in total salary or mortgage outstanding, can only be reached if both parties have complete and accurate information. For these data, ideally the most knowledgeable spouse would be questioned.

IMPROVING FINANCIAL MANAGEMENT IN THE GAMBIA, AFRICA

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ABSTRACT

The author served for two years in The Gambia, Africa as Chief of Party and Team Leader for the Sahel Regional Financial Management Project (SRFMP). Several incremental steps were taken to help improve financial management.

BACKGROUND

In the late 1970's, numerous negative audits were reported by the U.S. General Accounting Office of development projects funded by the U.S. Agency for International Development (USAID) in the Sahel region of Africa. The SRFMP project was designed to help improve financial management of USAID projects in eight countries. In The Gambia, few financial problems existed on USAID projects so SRFMP focused on improving financial management for the entire government. Virginia Tech served as the contractor.

PROCEDURES

(1) "Action training" methodology was utilized throughout the project. This term means a planned approach to development, including a training component, that brings together all potential factors that might bear upon the success of the plan, thus permitting the efforts to focus upon developing both competence and confidence in order to get results and provide the capacity to sustain efforts.

(2) Indepth focused interviews were held with 24 permanent secretaries, the highest level professional bureaucrat in government.

(3) The needs expressed by the top officials in Government were compiled into several documents, including "Problems and Bottlenecks in Financial Management in The Gambia," "What Should a Good Financial Manager Be Able to Do?", and a 529-page Financial Management Handbook. Chapters were: Management/Supervision, Government Budgeting, Government Financial Regulations and Accounting Procedures, Auditing, and Financial Management Consulting Closure Project.

(4) A 12-week course of instruction called "Financial Management" was designed which met 3½ hours each weekday morning to serve mid-level government accountants and auditors who were managers or supervisors. On-the-job training was done in the afternoons. The teaching emphasized experiential and student-centered learning activities rather than lecturing. Commonly used techniques included role playing, panels, case problems, debates, contests, and variations of small group work. Numerous small projects were completed throughout each course, such as constructing an organizational chart or preparing a procedures sheet on how to reduce errors in a cash book.

(5) Other SRFMP instructional efforts included two two-week "Auditing Professional Development Seminars," designed strictly for auditors, and a one-week workshop on "Responsibilities in Financial Management" designed to assist senior government officials.

RESULTS

Three "Financial Management" courses were taught with 51 students graduating, this represented about forty percent of all potential government employees. Fifty eight participants (virtually all Government auditors) completed the "Auditing Professional Development Seminar." Nineteen senior Government officials (about fifty percent of the total) also completed the workshop on "Responsibilities in Financial Management."

Fifteen comprehensive Financial Management Consulting Reports were written by course participants who analyzed government ministries and departments; numerous improvements in procedures were then implemented. A viable professional organization, the Association of Financial Managers, was formed and over eighty people attended the first annual conference in July, 1985.

The SRFMP project has been extended by USAID to 1991 and a trained Gambian is now directing subsequent Financial Management courses.

REFERENCES

1. E. Thomas Garman (Editor), Finincial Management Handbook, Revised edition, Banjul, The Gambia: Government of the Gambia, 1985.

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DEVELOPMENT OF A CONSUMER ISSUES ATTITUDE INVENTORY BASED ON A DESCRIPTIVE FRAMEWORK OF THE CONSUMER INTEREST

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PURPOSE AND OBJECTIVES

The purpose of this study was to develop a Consumer Issues Attitude Inventory based on a Descriptive Framework of the Consumer Interest. Development and evaluation of the Consumer Issues Attitude Inventory was designed to establish the internal consistency reliability and criterion related validity of the scores on the sub-scales. The specific objectives of this study were:

1. to develop a consumer issues attitude scale,
2. to establish the internal consistency reliability and the criterion related validity of the scores on the scale, and
3. to determine whether consumer advocates, business representatives and consumers expressed differing views on these issues.

PROCEDURES

A review of literature aided in the identification of enduring consumer issues. The framework was based on consumer rights and consisted of seven categories: Safety and Protection, Choice, Consumer Voice, Information, Redress, Consumer Education, and Public Policy. Content validity of the Descriptive Framework was affirmed by a jury of nine university faculty in consumer related fields.

Initially 150 issue statements were developed; some statements had been used in previous studies. To avoid response bias, approximately half of the statements were pro-consumer; agreement would reflect a consumer advocate's attitude; the remaining statements were negatively worded. The statements were evaluated and reduced to 73 for the pilot study. A jury of state consumer education association members ranked the 73 statements according to importance and commented on wording. The pro or con direction of each statement was verified. Next the statements were pretested with a sample of 25 consumer advocates, 55 business representatives, and 100 consumers who ranked the statements according to importance and agreement on two 5-point Likert scales. The instrument for final data collection consisted of a 5 point Likert-type scale for strength of agreement with the 51 issue statements which were categorized into seven subscales of the consumer interest. The sample consisted of 101 consumer advocates representing consumer action organizations in each of the 50 states and the District of Columbia, 150 business executives representing Fortune Fifty companies, and 250 consumers whose names were drawn in a random sample of telephone listings in a northeastern state. The usable response rate was 61.1%.

DATA ANALYSIS

Group membership was the criterion used to evaluate the validity of the scores. Cross-tabulation of responses to the agreement scale with group membership and the chi square test of independence were used to evaluate the criterion related validity of the scores on the subscales. Data were analyzed using Pearson product moment correlation coefficients, one way analysis of variance, Scheffe' multiple range test, plotting of the item reliability indexes, and Cronbach's alpha. Items that were not contributing to internal consistency reliability and criterion related validity or that had low importance ratings were eliminated.

RESULTS AND DISCUSSION

The internal consistency reliability of the scores on six of the seven subscales (with the exception of Consumer Education) and the criterion related validity of the scores was confirmed. Pearson subscale to total score correlations for the subscales were: Safety and Protection .93, Choice .88, Consumer Voice .94, Information .87, Redress .88, Consumer Education .72 and Public Policy .90. Cronbach's alpha coefficients were as follows: Safety and Protection .90, Choice .80, Consumer Voice .93, Information .85, Redress .85, Consumer Education .45 and Public Policy .86. The Cronbach's Alpha estimate for the 51 issue statements as a whole was .97. One way ANOVA and the Scheffe' test revealed significant differences (.05 level) between pairs of group means for the consumer advocates (3.91), business representatives (2.51) and consumers (3.70) on all subscales. Based on these data, the criterion related validity of the scores the subscales was confirmed, indicating that the Consumer Issues Attitude Inventory effectively differentiated among the attitudes expressed by consumer advocates, business representatives, and consumers toward enduring consumer issues. The final version of the Consumer Issues Attitude Inventory consisted of 44 statements in six categories.

RECOMMENDATIONS

The scale might be used in the following ways:

1. to introduce students to consumer issues and to generate class discussion.
2. as a model for students to follow in conducting their own study.
3. to compare students responses to the three groups in this study.
4. to measure pre- and post-test attitudes.
5. to compare research subject's attitudes with the mean scores established by this study.

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MAKING SEN$E OF HEALTH CARE PLANS:
THE CONSUMER'S GUIDE TO HEALTH CARE COVERAGE

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ABSTRACT

Described is a leader training packet designed to assist consumers to assess their health care needs; to use appropriate guidelines to select and purchase health care coverage in order to get the most protection for dollars spent; and to utilize their plan in order to maximize benefits.

INTRODUCTION

The Cooperative Extension in Cleveland was funded to conduct a special year-long project which culminated with the development of a leader training packet entitled "Making Sen$e of Health Care Plans: The Consumer's Guide to Health Care Coverage." Leader training workshops using a pilot edition were conducted in January 1986.

NEED FOR THE PROJECT

Consumers today are faced with more options on where and how to receive their health care than ever before. At the same time, the health care system is changing in significant ways. Most of these changes relate to the increasing emphasis on containing health care costs. In short, there is a new emphasis on "managed" health care where the payer of the services often dictates how and when services will qualify for reimbursement and how much will be paid. The consumer must be aware of the new rules or runs the risk of not receiving maximum benefits.

A recent Louis Harris survey found that more than 70% of employers surveyed had significantly changed their health plans in the last three years. The Ohio State Medical Association, in a recent poll of 500 Ohioans, found that when respondents were asked what types of health care plans were available to them the last time they selected a plan, half were unable to respond. Nearly 40% of those who did change plans did not know if their plan required them to change doctors. Overall, 76% felt unaware of the changes occurring in health care financing and delivery. Other studies also show that consumers are often unaware of what services their health insurance actually covers or are confused about benefits. This can lead to purchasing more or less coverage than is optimal or not receiving full value or benefit from their plan.

PACKET DESCRIPTION

Each of five leader teaching guides contain objectives, lesson outlines and suggested learning activities; fact sheets and supplementary meterials. The guides are:

Overview

Highlights the impact and major trends caused by the problem of rising health care costs.

Matching Health Care Needs With Options For Coverage

Assists consumers in assessing their health care needs while providing examples of several types and sources of health care coverage.

Evaluating and Selecting Health Care Plans and Policies

Helps consumers evaluate, compare and select the best health care available to them.

Using Your Plan to Maximize Benefits

Helps consumers to follow correct procedures for filing health insurance claims and complaints. Also provides information on how to utilize plans in order to receive full value and benefits.

Senior Citizens and Health Care Coverage

Assists consumers 65 years and older in selecting coverage to supplement Medicare.

RESULTS

The majority of participants in two pilot leader training felt that they gained new knowledge. The majority felt that the information in the packet was both valuable and helpful. Just over half felt that they learned a new skill and three quarters felt they would be able to apply some of the information. About half said they felt that they would be able to convey the information to others.

REFERENCES

1. Cashman, Tom. "What Ohioans Think About Their Medical Care." The Ohio State Medical Journal, October, 1985, pp. 716-749.

2. Marquis, M. Susan. "Consumers' Knowledge About Their Health Insurance Coverage." Health Care Financing Review, Fall, 1983, pp. 65-80.

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FOOD RELATED ATTITUDES: DIFFERENCES BETWEEN EMPLOYED AND NON-EMPLOYED WOMEN

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ABSTRACT

Differences in food and nutrition-related attitudes and food habits between employed and non-employed women, determined through responses to a mailed questionnaire, are described. Relationships were found between the variables, household size, education, family income, number of grocery stores shopped, nutrition knowledge and concern scores, with one or more of six attitude factors.

INTRODUCTION

The increasing number of employed women has resulted in a number of studies on the differences in attitudinal and behavioral patterns exhibited in the marketplace between working women and housewives. Psychographic and food behavior differences were found between working wives and housewives, but conflicting results from similar studies indicate employment did not have a significant effect. The objectives of this study were: (1) to identify underlying structures in food and nutrition-related attitudes of women, 24 to 64 years old, (2) to determine differences in responses of employed and non-employed women to food and nutrition-related attitudinal items and questions on food habits, through a mailed questionnaire, and (3) to find relationships between selected demographic and food habit variables, and food and nutrition-related attitudes of women.

METHODS

Consumers who visited 7 shopping areas located in the Metro-Atlanta Statistical Area (MSA) were invited to participate in various food-related surveys. A mobile research facility parked at the site was used as a base for recruiting and screening of participants to one person per household. A questionnaire was given to each participant to fill and mail back. Respondents answered attitudinal items concerning food preparation, food and nutrition, grocery shopping, meal planning and eating habits using a seven-point Likert scale ranging from 'strongly disagree' (1) to 'strongly agree' (7). Also included was a section on demographic characteristics such as age, race, marital status, education and family income, and questions on nutrition, shopping and eating habits. Differences between groups were determined by a MANOVA procedure. Attitude items were analyzed by using principal component factor analysis.

RESULTS

A return of 685 questionnaires resulted in a response rate of 63%. The 427 respondents who met age and sex requirements for this study were grouped as follows, 151 (35%) employed full-time (FT) to Group I, 87 (20%) employed part-time (PT) to Group II and 189 (44%) non-employed (NE) to Group III. Group means indicate that FT women were younger and had more years of education compared to the NE. Family income was not significantly different. While no differences were found in the frequency of shopping and meals eaten outside the home, the number of grocery stores shopped at, the number of eating occasions per day and "take-out" meals per week were different.

Factor analysis of 30 attitudinal items indicated that 21 items defined at least one of the first six factors. These 21 items were used in another factor analysis to find underlying structures. Six factors were generated which explain 58% of the variance in the data and were named according to factor defining items as follows:

Factor 1: Enjoys cooking/grocery shopping
Factor 2: Efficient meal planner
Factor 3: Likes new foods
Factor 4: Uses convenience foods
Factor 5: Eats more meals away from home
Factor 6: Likes variety in food

Mean responses to the attitudinal items indicated that while FT women enjoy grocery shopping and cooking, and agree on the importance of meal planning, they tended to do so less than NE women. All groups agreed on their interest in new foods. Women in the FT group agreed on their use of convenience foods to save time while NE women disagreed. There was disagreement among all groups about the increased frequency of meals away from home but NE women disagreed more than those employed.

Factor 1 scores correlated positively with household size. Factor 2 scores were correlated with education, family income, nutrition knowledge and concern scores. Factor 3 scores correlated positively with nutrition concern and negatively with education. Factor 4 was negatively correlated with family income and nutrition knowledge. Factor 5 was related to education, family income and the reported number of meals away from home per week. Factor 6 scores were related to nutrition concern scores. These results were significant at the 0.05 level or lower.

CONCLUSIONS

A number of differences in food related attitudes and food habits were found between women employed full-time and those non-employed.

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LIFELINE FINANCIAL SERVICES: REREGULATION OR A GUARANTEE OF BASIC SERVICES?

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Major changes have taken place at financial institutions (FI). This has been both good and bad news for consumers. The good news has been higher interest rates paid on shorter maturity, lower minimum balance accounts. The bad news, many times for a different group of consumers, has been lower accessibility and higher service charges. The House Banking committee estimated that the cost of basic banking services for the average household in the period from 1979 to 1983 increased 104 percent from $91.94 to $187.59 [4].

Financial institution executives defend these increases by citing higher costs. Again the most prominent higher cost was the paying of higher interest rates on savings accounts. Prior to the early 1980s, low cost, and low paying, savings accounts financed "free" services, such as checking account reconciliation, and perhaps the most expensive of all, branch banks. Because of the higher costs associated with attracting deposits, FIs started to charge for services that were free, increased fees or minimum balances for checking and passbook accounts, and started to close branches. The FIs also began to aggressively court higher income and higher balance customers. The net affect of these actions was increased services with small or no increase in consumer costs for high balance customers. But the low to moderate income customer saw a reduction or elimination of services and increases in charges. The impact of these changes on the poor was most noticeable. Between 1977 and 1983 the percentage of low income households with checking accounts dropped from 56 to 44 percent [5]. Part of the reason for this reduction in account holdings may be due to typical minimum deposits of $500 or more. Also, the monthly service charge of 3 to 5 dollars if the account is below the minimum may be equivalent to a low income household's daily food budget [3].

As a result of this situation, consumer advocates are calling for legislation requiring "lifeline" financial services for consumers who are being denied access to FIs. The intent is to require the provision of basic checking and savings accounts with reduced fees or low minimum balances to low income consumers. A number of financial institutions have been addressing the need for low cost checking. For example, Security Pacific National Bank in Los Angeles has an account with a $100 minimum balance; ten free checks a month; two deposits to a human teller each month; and unlimited use of the ATMs. If the depositer doesn't meet these conditions there is $3.50 per month and $.25 per check charge. Sears Savings in Glendale, California has a more liberal plan: no minimum balance, unlimited free checks, and free use of automated teller machines (ATMs) [7].

However, even with some institutions responding there are still a number of issues to be addressed.

1. What services should be under the lifeline umbrella? Generally lifeline has been applied to checking accounts. But, consumer groups also want to include service charges, especially overdraft charges, cashing of government checks, check hold policies, and access to human tellers versus ATMs [8].

2. Should lifeline services be limited to certain groups? Income level is frequently sited as a determining factor in the need for subsidized services. But a $10,000 annual income in Chicago is much different from $10,000 in rural Alabama. Because of this disparity some see the issue, especially in terms of income, one of urban versus rural. Namely, urban institutions will have much greater pressure to respond to low income consumer demands [7].

   The elderly are also frequently sited as another group that has been disenfranchised. However, a recent study found that consumers over 60 were much less likely than younger depositors to pay service charges [2]. Also, while some older consumers may be poor, many can afford to meet the current requirements.

3. Will financial institutions need a subsidy if they provide reduced cost services? Interestingly, some researchers have found more profitable banks tended to charge lower fees than the less-profitable banks [6]. Another survey found that over half of the banks that offered low or no fee transactions accounts broke even or made money on these accounts. Also, for many of the institutions that lost money, the losses were minimal [1]. But will this be the case if more services are required at a reduced cost?

4. Which institutions should provide lifeline services? Currently traditional financial institutions, banks, thrifts, and credit unions are involved. But should such non-bank companies as Sears, Merrill Lynch, and Beneficial Finance also be included? [8].

   This session will address these issues.

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REFERENCES

1. Baig, Edward C. "Low Budget Banking," Fortune (November 25, 1985) 85-6.

2. Canner, Glenn B., Kurtz, Robert D. "Checking Account Service Charges: Implications For Lifeline Banking," Journal of Retail Banking (Summer, 1985) 7:32-40.

3. Farhi, Paul. "Growing Interest in No-Frills Checking Accounts," San Francisco Examiner (October 20, 1985) Section 10, 1.

4. Hertzberg, Daniel. "Smaller Customers Get Less Service at Banks and Pay More Charges," Wall Street Journal (October 18, 1984) 1, 26.

5. Reimer, Blanca, Carson, Teresa, and Carpenter, Kimberly. "Liberty, Justice, and Bank Accounts for All?," Business Week (July 1, 1985) 68-9.

6. Salmon, Julie. "Banks Are Raising Fees and Adding New Charges to Cover Higher Costs," Wall Street Journal (February 5, 1982) 21.

7. Schneider, Brenda L. "Addressing The Lifeline Issue: Overview and Recommendations," Journal of Retail Banking (Summer, 1985) 7:26-31.

8. Thompson, Thomas W. "Lifeline Banking: An Editorial Viewpoint," Journal of Retail Banking (Summer, 1985) 7:23-25.

LIFELINE FINANCIAL SERVICES: THE CONSUMER/BANKING DILEMMA

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Today's discussion has focused on the problems of providing financial services to consumers. To some extent the problem has been addressed as a new one arising out of deregulation. In reality the problem has perhaps worsened with deregulation. But for many low income families the problem was very real prior to "fee for services banking." Certainly the climate for addressing the issue is better today when middle income families see that they too may no longer be able to afford services they assumed were free and theirs by right.

Generally, our speakers have agreed that the data base we have for making decisions in relation to the magnitude of the problem is poor. At the core of the problem is the question of what are the purposes of the banking system in relation to consumers. Historically consumers have looked to banks to meet their needs as savers, borrowers and payers of funds. They deposited funds for safety as well as for economic gain in savings accounts. They borrowed funds to improve or change cash flow so that they might meet today's consumption needs with tomorrow's income. They used their checking accounts for convenient, safe transfer of payments.

The advantaged customer today is melting many of the functions of several accounts into one account. Credit cards may be used not only for obtaining immediate credit but alternatively as a convenient method of payment. At the same time advantaged consumers may be earning interest on funds they previously held idle in their checking account. Those persons not bundling accounts thus become comparatively disadvantaged. Unitary product users with lower asset accumulation or lower income are likely to find the costs of services beyond their means.

This raises the issue of identifying what groups are in need of checking accounts as well as other banking services. It has been suggested that we might answer the question from the perspective of who were the former users. There is one group of individuals who because of lifestyle may be classified as never using banking services. Traditionally those with economic problems, recipients of transfer payments, and the chronically unemployed have not used bank services. Some of these individuals, while not traditional users, needed payor services. Many individuals receiving transfer payments need a deposit account from which they might make payments. Evidence of this need may be found in any large city where money exchange offices abound. Banks perhaps have not met this need in the past because their personnel are as much intimidated by the client as the client is by them. It is questionable if this group should be ignored however.

A group that has more heavily used bank services are those residents of small rural towns that have depended on their bank for economic existence. To the extent that these small operations may not be viable in a world of giants, many small businesses, and farmers as well as consumers, may be disenfranchised from personal contact with a local bank. These are consumers who have had close personal contact with bank personnel, and have supported all the services of the bank. Not unlike the traditional nonuser, however, with farm income and general economic depravity the small town stands to lose many or all of the services it has traditionally received from a local bank.

The issue of cost of the service is most frequently used to justify the failure of banks to provide services. There are two sides to this issue. One states that the service should be provided only when the benefits exceed the costs. The second states that any cost is too great and that banks should not be providing social welfare. Is this a social issue with political implications? If banking holds a monopoly over the payment system and does not provide services for potential customers, then two potential alternatives exist. Either the marketplace will respond by providing an alternative or government will respond with regulation requiring banking to meet the need. The solution may or may not be in the best interest of the consumer. It is not uncommon to find the money exchange offices charging fees in excess of 100 percent for cashing checks or making utility payments for customers.

ALTERNATIVE SOLUTIONS

Where the marketplace does not meet a need in a socially responsible way local, state, and/or federal legislation is a usual result. Massachusetts as well as other states now regulate low cost fees for bank services. The provision of low cost accounts will of course mean that some consumers will pay more for other accounts.

Another alternative would be the use of institutionally shared access points. These may be generic store front institutions operating in much the manner as assigned risk insurance.
To the extent that these access points provide

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sufficient contact with the system they may be the most viable and economic solution.

CONCLUSION

The issue of lifeline financial services is of particular importance in large metropolitan areas containing many disenfranchised consumers. The problem is not limited to this group, however, and many small rural communities also face the difficulty of accessing basic financial services in the future. As a result the problem may require uniform national action as opposed to local solutions.

Consumer groups are focusing on the issue, exploring the extent of the problem and the alternatives that will ensure that all persons have minimal services available.

REMARKS: LIFELINE FINANCIAL SERVICES

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The issue of disenfranchisement of certain consumers from the traditional payments system is one which has engendered great emotion, but very little reliable data as to the identity of those consumers who are being excluded. Federal Reserve Board data, for example, has found that 21% or 14% of American households function without a traditional transaction account, depending on whether the figure is measured by personal interview or telephone interview. Accordingly, I would caution to approach quantitative descriptions of the problem with suspicion. Nonetheless, it is intuitively obvious that some consumers have stopped using traditional transaction accounts at depository institutions given the dramatic changes which have recently occurred in the pricing and availability of banking services.

Some form of account relationship is virtually a necessity to the consumer. This can be in the form of an account with a traditional depository or a hybrid form of account with one of the many new players interested in providing consumer financial services (at least, to certain segments of the consumer population), such as Merrill Lynch, American Express, etc. It can also be in the form of a relationship with a facility which enables conversion of paper in some form into cash, such as a check cashing service. This broad interpretation of an 'account relationship' suggests that basic financial services are much more expansive than simply a low-cost, low-fee transaction account. It would also include, for example, the utilization of new technologies for the delivery of fundamental financial services. One widely used example would be the direct deposit of various governmental benefits electronically into traditional accounts with financial institutions, especially social security benefits. Many institutions, of course, have coupled the availability of low fee transaction accounts with the direct deposit of such governmental benefits, especially to the elderly. The important point is that much more is involved than simply a low-cost transactional account.

The generic issue can, I believe, be most accurately cast as the breadth and quality of access to the payment and depository systems. To this end, it is advisable to recall that historically consumers have functioned in a variety of heretofore discreet roles as they relate to depository financial institutions (hereinafter, 'banks'). Generally, consumers have performed the roles of savers, borrowers and payors. While savers have clearly benefited from the relaxation of various regulatory constraints over the past several years, it is less clear that consumers qua borrowers or payors have similarly benefited. Borrowers are paying both generally higher interest rates and increased associated loan fees (to pay the more generous rates concomitantly given to savers) and assuming increasing amounts of interest rate volatility risk in the form of variable rate loan instruments.

Similarly, the higher rates paid savers have depressed interest rate spreads which banks had previously enjoyed, thus driving banks to recoup some of these lost spreads in the form of more explicit price structures for transaction accounts. Thus, payors, who had enjoyed nominally 'free' transaction accounts, are now confronted with explicit (and higher) prices, which not surprisingly, have engendered resentment. Note that to the extent the traditional functions are blended, consumers have generally benefited. As technologies have made such products economically feasible for consumer-sized accounts, those new products combining traditionally discreet functions have been widely accepted as reflecting a proverbial 'better mousetrap.' For example, consider open-end lines of credit, typically offered through credit cards--this product combines the paying function and the borrowing function; or, the Super NOW, which melds the paying function and the saving function. But, while some consumers have benefited from these blended products, those whose needs are more pedestrian have not similarly reaped gains. It is generally with regard to the traditional, unitary financial products of paying, and to a lesser extent, borrowing, where consumers are not so favorably treated as they once were.

With this background in place, it is, not surprisingly, the lowest-income or lowest-asset consumers who have suffered most from the changes, as they are most likely to have needs for the services that were offered in the formerly single role mode, i.e., transaction accounts and small savings accounts.

It is worth noting that in certain areas, marketplace forces have generated substitute products for the traditional ones increasingly beyond the reach of lower-income consumers. For example, the so-called 'rent-to-own' industry has evolved (and has been marketed aggressively) as a credit substitute, to appeal to that portion of the consumer population which has historically had (or perceived themselves as having had) difficulty gaining access to the traditional sources of consumer credit. This substitute comes, again at no surprise, at some considerable cost; here, for example, in the form of effective APRs potentially in excess of 100%, depending on the assumptions underlying the cost allocations of this product, and in the form of often sharp collection practices. Accordingly, this substitution process clearly reveals the social welfare nature of the access problem. Are the social costs, as opposed to the purely economic costs, justified to society given the social utility (and perhaps even the necessity) of the product or service involved? The parallel to transaction accounts is found in the allegation that the tendency toward explicit charges for basic banking services will result (or already has resulted) in the same kind of substantial substitute cost imposition on the recipients or users of the services.

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Accordingly, the debate over basic banking services might be recharacterized as whether, as a *political* *and* *social* matter, the government will permit the same kinds and amounts of cost in the form of user fees to be assessed directly to certain necessitous consumers who arguably have very real *social* needs to such basic services. Several states, Massachusetts, Rhode Island and New York among them, have answered this question in the negative. Numerous efforts by individual banks to provide some form of basic services can also be fairly seen as an effort to forestall governmentally-required services in other jurisdictions.

It is also pertinent to note that banks have always been creatures of explicit or limited powers; i.e., they can do only what they are expressly authorized by law to do, rather than being permitted anything so long as it is not contrary to law. While this limitation is undeniably historically driven by safety and soundness considerations, it also suggests that banks cannot simply operate in an unfettered manner. Put somewhat differently, associated with the granting of a bank charter is something akin to a social responsibility to the citizens and the communities surrounding the bank. Legislation recognizes this duty--for example, consider the Federal Community Reinvestment Act, or the recently-enacted New York regulations tying expanded bank powers to a bank's performance record under that state's community reinvestment requirements. Considering this duty, it is then permissible to put the basic banking question, not in terms *necessarily* of how to provide services on a break even basis, as the industry would like to cast the question, but rather in terms of how to provide the services on a broad basis while, as an important but secondary matter, minimizing the express costs or losses attendant to such services.

Another important factor in this entire equation is the resentment deriving from the necessity of overcoming consumer inertia. Put less pretentiously, this means that consumers generally resent having to change the manner in which they do basic routine things. A major portion of this resentment stems from the practices of many banks in changing their marketing focuses, often withdrawing from certain neighborhoods or altering their means of delivering routine services to those areas and target audiences from 'live' delivery means such as branches to electronic means such as ATMs. Consumer resentment at facing the sole option of dealing with a machine is not ameliorated by the economic fact that the option may well be more economically feasible than paying the explicit costs associated with retaining a live presence in the neighborhood. This resistance is likely to be intensified given the purported benefit of 'deregulation' generically, which is supposed to enhance consumer 'choice.' Similarly, consumer resistance to the exclusivity of dealing with more cost-efficient service delivery through electronic technologies is not likely to be overcome with the 'benefits' of increases in service accessibility enabled by such technologies which enable institutions to surmount the limitations of time and distance. Being able to access a transaction account at 11 p.m. is of little solace to the consumer who has difficulty paying for the explicit costs of having such an account.

To address banking availability problems, it is of course necessary to determine what kinds and levels of services are essential as a matter of social policy. Seemingly, consumers have potentially unmet needs as payors first, and then, as savers. Consumers as investors will likely be provided with adequate affordable options, given the necessity of banks to attract deposits. As noted earlier, a transactional capacity is critical to virtually any level of modern financial functioning. The simple ability to pay one's bills, whether by check, money order, or whatever is fundamental. A significant number of persons probably continue to perform all their payment functions by cash, but even those persons need some vehicle by which to obtain that cash. That typically involves either a depository account, or the high-cost alternative of big city check cashing services. Similarly, most customers have need of some form of safekeeping vehicle, i.e., a depository account, either for the purpose of having a temporary place in which to safely retain funds, or for cash conversion purposes.

The optimal account would have characteristics which would serve these functions, although I confess to being unable to quantify the precise number of instruments periodically available, the charges therefor, and other limitations on and charges for account activity. Equally important, however, are the qualitative characteristics of such accounts--not only the fee structure, but also the terms and timing by which funds in such an account are available, the means of access, and the general level and *quality* of the consumer-bank interaction. This last notion is critical as there exist distinct technological and cultural ramifications to the utilization of differing means through which basic services are provided.

Serious concerns have been posed about whether the population at whom these services are aimed is comfortable or familiar enough with the electronic means that many programs envision using for providing the services. Lower-income consumers might be expected to be less educated and less familiar with electronic technologies. Similarly, there can be expected to be sociological concerns about the placidity of the interaction between bank personnel who have little, if any, experience with lower-income consumers and consumers who have no experience with bankers or banking procedures. Regardless of these concerns, the economics of using electronic delivery means seem to be such that the acculturation process must be pushed forward to familiarize those consumers with these delivery vehicles.

Some instructive pilot projects which may facilitate this educational process have already taken place. For example, New York City has developed and is engaging in an extensive project involving some 460,000 recipients of various public benefits wherein benefits are processed electronically to various distribution points throughout the city, and which involve the consumer in participation with the process to authenticate identity. It seems hopeful that such involvement may serve the intermediate function of increasing comfort levels on the part of these consumers, that is to say, in educating them. New York is also scheduled to begin a pilot project for distribution of benefits through ATMs in early 1987. As the city expects to realize substantial savings from reduced fraud and theft losses, it seems only appropriate to expect some portion of the cost of this project to be assessed against the municipality.

Many consumer representatives have decried the practice of some financials of limiting service to certain population segments primarily or solely to electronic delivery means. This is certainly understandable, as the multiple changes occurring in the banking industry due to technology and altered regulatory structures have led to much greater complexity generally for consumers and have increased the need of consumers for assistance in evaluating the dramatically expanded menu of financial products offered. Obviously, the ability to provide individualized counseling or education to consumers is qualitatively different when it is to be provided via electronic vehicles. At the same time, however, the use of electronic telecommunications technologies, such as ATMs, has enabled financials to provide services over vastly expanded times and distances, certainly more than otherwise would have been economically possible. Thus, consumer representatives are faced with a fundamental dilemma. On the one hand, they decry the dehumanizing treatment whereby the consumer-bank relationship takes place primarily (and increasingly) through electronic means; on the other hand, it is difficult to ignore the economic efficiencies inherent in using such means.

Deregulation generally will result in increased economic efficiency. Economic efficiency will generally entail the result that more substantial account relationships will enjoy preferential terms. The provision of basic banking services represents a classic example of the trade-off between equalitarianism and efficiency. At some point the trade-off between these two ceases to be an imperative and becomes a rationalization for privilege. Hopefully, these comments have shed some light on some of the factors we ought to consider in optimizing this balance. To the extent we view this question in the social welfare terms by which it can be best addressed, our progress toward this goal is enhanced.

OVERVIEW OF THE CONSUMER EXPENDITURE SURVEY PROGRAM

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ABSTRACT

The Consumer Expenditure Survey (CE) Program serves two purposes. It supplies a wealth of data on personal consumption of different kinds of consumer units for economic analysis and planning for a wide range of public and private organizations. It also provides a profile of consumer spending for use in revising the market basket and item selection of the Consumer Price Index (CPI). This paper describes the CE survey, reviews activities of the divisions within the Bureau of Labor Statistics which are responsible for the CE Program, and presents results and comparisons of CE data with other sources.

THE CONTINUING CONSUMER EXPENDITURE SURVEY

The continuing Consumer Expenditure Survey consists of two separate components, each with its own questionnaire and sample: 1) A Quarterly Interview survey in which 5,000 consumer units are visited by an interviewer every 3 months over a 12-month period, and 2) a Diary survey in which 5,000 consumer units are asked to complete a diary of expenses for two consecutive 1-week periods.

Detailed income and expenditure data from both the Interview and Diary components of the new, ongoing Consumer Expenditure Survey are now available through 1983. Data published to date represent the urban population. 1984 data for urban consumer units will be released this June. Starting this Fall, data will be released for 1984 for the total population.

Data collection for both components of the survey is carried out by the Bureau of the Census under contract to the Bureau of Labor Statistics. The data are collected in 85 urban areas of the country that are representative of the U.S. urban population.

The Interview survey obtains data on the types of expenditures respondents can be expected to recall for a period of 3 months or longer. These include relatively large expenditures, such as those for property, automobiles, and major appliances, and those which occur on a regular basis, such as rent, insurance premiums, and apparel. The Interview survey also obtains data on expenditures incurred on trips. Approximately 95 percent of all consumer expenditures are covered in the Interview. Excluded are nonprescription drugs, household supplies, and personal care items.

The Diary survey is designed to obtain data on frequently purchased items, such as food and beverages, both at home and in eating places; tobacco; housekeeping supplies; nonprescription drugs; and personal care products and services. These items are less likely to be recalled accurately by respondents over longer periods of time. Expenditures incurred while away from home overnight or longer are excluded from the diary.

The Interview survey must be integrated with the Diary survey to provide a complete picture of expenditures. Several years of data from both the Diary and Interview components are also required to construct the complete picture of consumer spending needed to update the market basket for the Consumer Price Index.

ORGANIZATIONAL STRUCTURE OF THE CONSUMER EXPENDITURE SURVEY

There are 12 offices in the Bureau of Labor Statistics. The Consumer Expenditure Survey program is part of the Office of Prices and Living Conditions (OPLC). There are five divisions in OPLC that are responsible for the CE surveys. The Division of Consumer Expenditure Surveys is responsible for the management of the CE activities of the four other divisions.

The Division of Consumer Expenditure Surveys is divided into two branches: (1) Production and Control, and (2) Information and Analysis. The Production and Control Branch receives the data from the Census Bureau, edits the data and processes it. They produce a database of monthly expenditures which is then used by the Information and Analysis Branch for publication purposes and by the Consumer Price Index Division for cost weights. The Information and Analysis Branch analyzes and aggregates the data for publication. The current publication program calls for the release of news releases, bulletins, and articles. The program also includes the release of micro data on public use tapes. Both branches prepare the specifications for processing and publication.

The Price Statistical Methods Division provides statistical support--from sample design, to data imputation, forms design, calculation of reliability measures, and analysis of the data. The Price and Index Number Research Division provides support for analytical projects. The Division of Consumer Prices and Consumption Studies provides computer and systems analysis support and carries out the actual production of data and publication tabulations. The Consumer Price Index Division participates in all production phases of the CE data since it is a major user.

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USES OF THE CONSUMER EXPENDITURE SURVEYS

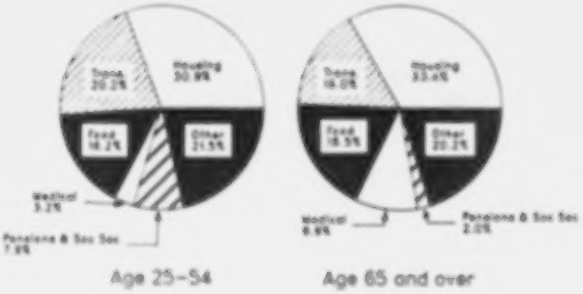
As in the past, revision of the Consumer Price Index remains a primary reason for undertaking such an extensive survey. Results of Consumer Expenditure Surveys have been used to select new market baskets of goods and services for the index, to determine the relative importance of the items selected, and to derive new cost weights for the baskets.

The survey data are of value to government and private agencies interested in studying the welfare of particular segments of the population, such as the aged, low-income families, urban families, and those receiving food stamps. The Internal Revenue Service has used the data as the basis for revising the average State sales tax tables which taxpayers may use in filing Federal income tax returns. The survey data are used by economic policymakers interested in the effects of policy changes on levels of living among diverse socioeconomic groups such as the impact of various tax proposals. Econometricians find the data useful in constructing economic models. Market researchers find them valuable in analyzing the demand for groups of goods and services. The Department of Commerce uses the survey data as a source of information for revising its benchmark estimates of some of the personal consumption expenditure components of the gross national product.

RESULTS

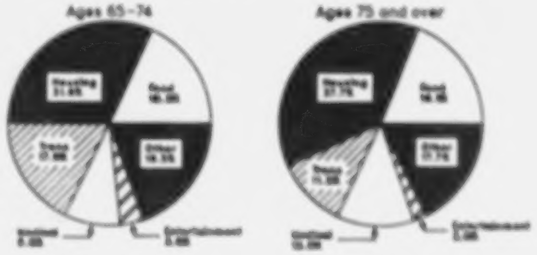
Now that the CE is ongoing, expenditure patterns can be examined over time as well as by characteristic. Expenditure patterns for housing, transportation, and other items can be examined from Interview data. A comparison of expenditures for the working age groups, 25-54, and the 65 and over age group, show differences in spending patterns. The younger group spent a higher share of their expenditures on transportation and pension and social security payments. The older group spent a greater share of their expenditures for housing, food, and medical care.

Percent Distribution of Total Expenditures by Age, Interview Survey, 1982–83



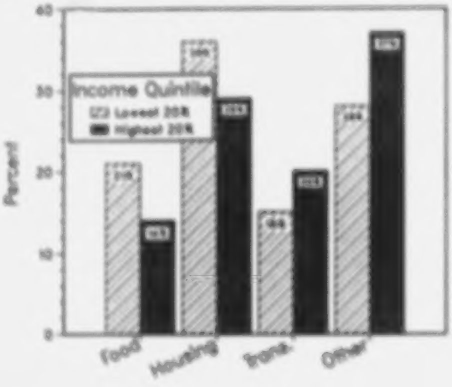
Another comparison by age shows that there are different expenditure patterns among the elderly. When the age group 65 and over is further broken into two age groups, ages 65-74 and age 75 and over, differences emerge. In the older age group, the share of expenditures spent for housing, food, and medical care exceed those of the younger group.

Percent Distribution of Total Expenditures for the Elderly, Interview Survey, 1982–83



A comparison of the lowest and highest income quintile groups shows that the lowest income group spent a large share of their expenditures for food and housing. The highest group meanwhile spent a larger share for transportation and other discretionary items.

Percent Distribution of Total Expenditures for Selected Income Groups, Interview Survey, 1982–83



The effect women, as second earners, have on spending patterns can also be examined. Consumer units where both husband and wife are earners are on the average younger and smaller, have a higher average income before taxes, a lower rate of home ownership and a higher level of education. Expenditures are higher when both husband and wife are earners, except for health care and other miscellaneous items. When grouped by income class, however, the differences in spending patterns of these two types of CU's are not significant. The same conclusion is reached when relative expenditure shares are examined. The only categories that reflect slight differences in expenditure shares among the two types of CU's are transportation and personal insurance and pensions.

The examples above show how the data can be used to analyze consumer behavior by characteristics and/or for policy evaluation. Another use of the data is for marketing research. As noted earlier, consumer expenditure data is useful because expenditure trends and patterns can be examined over time as well as for different groups.

The CE survey allows for keeping track of the speed with which new products are disseminated. Such data are available on public use tapes. Examples of how the data can be used for marketing are given below.

Expenditures for cable TV have increased dramatically between 1980 through 1984. Mean expenditures have almost tripled. The percent of people reporting expenditures for cable TV has doubled. Expenditures for VCR's have also increased even as prices have been declining.

Expenditures for daycare and babysitting have increased tremendously over this same time period--over 40 percent for consumer units in the 25-34 age group. (See Table 1.)

Table 1. Mean expenditures, Interview survey, 1980-83

Item	1980	1981	1982	1983
VCR	$ 8	$ 10	$ 23	$ 21
Cable TV	31	43	59	79
Child care and babysitting (age group 25-34)	189	208	218	270

EXPENDITURE CHANGES OVER TIME

Consumer Expenditure Survey data are used to document changes in the expenditure patterns of American consumers over a period of time. Changes in expenditure patterns can be attributed to such factors as shifts in relative prices and wage rates, changes in tastes and habits, changes in lifestyles, and the availability of new products. Demographic changes such as changes in average family size, age, and earner composition can also affect expenditures. The current, ongoing CE provides a continuous flow of data that allows users to recognize trends more quickly than was possible in the past, and to identify trends that may have been missed altogether using data that were only infrequently available.

Tables 2 and 3 show Interview and Diary survey results from 1972-73 and 1982-83 and percent changes over that period. Also shown are CPI changes over the period. The Interview data show that gasoline and motor oil expenditures increased 166 percent from 1972-73 to 1982-83, while total expenditures rose 103 percent. This reflects the large increases in energy costs in the 1970's resulting from oil price increases. While the increase in gasoline and motor oil expenditures was somewhat higher than the increase in total expenditures, it was still well below the 232 percent price rise measured by the CPI. That was the result of consumers modifying their behavior in response to price increases by reducing their gasoline and motor oil consumption, and adjusting their longer term buying habits such as purchasing more fuel-efficient automobiles.

Table 2. Characteristics and average annual expenditures of urban consumer units, and percent change in consumer expenditures (CE), Interview survey, and Consumer Price Index (CPI), 1980-81 and 1982-83[1]

Item	1972-73	1982-83	Percent change	
			CE	CPI-U
Number of consumer units (in thousands)..	58,948	70,329	19	
Consumer unit characteristics:				
Income before taxes[2].....................	$12,388	$23,027	86	
Size of consumer unit....................	2.8	2.6		
Age of reference person..................	47.1	46.6		
Number in consumer unit:				
Earners..................................	1.3	1.4		
Vehicles.................................	1.8	1.8		
Children under 18........................	1.0	.7		
Persons 65 and over......................	.3	.3		
Total expenditures.......................	$9,421	$19,128	103	
Food.....................................	1,675	3,175	90	[3] 118
Food at home.............................	1,313	2,238	70	113
Food away from home......................	362	937	159	130
Alcoholic beverages......................	89	286	221	76
Housing..................................	2,638	5,869	122	[3]
Shelter..................................	1,507	3,309	120	
Owned dwellings..........................	746	1,947	161	
Rented dwellings.........................	644	1,065	65	[4] 89
Other lodging............................	117	296	153	[4] 164
Fuels, utilities, and public services	581	1,512	160	[4] 192
Household operations.....................	138	275	99	127
Housefurnishings and equipment...........	411	773	88	71
Apparel and services.....................	732	1,039	42	56
Transportation...........................	1,762	3,766	114	142
Vehicles.................................	709	1,425	101	[4] 130
Gasoline and motor oil...................	404	1,076	166	232
Other vehicle expenses...................	540	1,034	91	[4] 102
Public transportation....................	110	231	110	146
Health care..............................	432	834	93	154
Entertainment............................	389	879	126	88
Personal care services...................	106	178	68	103
Reading..................................	50	128	156	[4] 119
Education................................	126	257	104	[4] 126
Tobacco..................................	131	208	59	98
Miscellaneous............................	102	274	169	
Cash contributions.......................	372	586	58	
Personal insurance and pensions..........	818	1,651	104	
Life and other personal insurance....	367	262	-29	
Retirement, pensions, Social Security	451	1,388	208	

[1] 1972-73 expenditure categories were adjusted to correspond with 1982-83 definitions. 1982-83 estimates exclude students.

[2] Income before taxes is calculated using complete income reporters.

[3] Not comparable because of different concepts of homeownership.

[4] Estimated.

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Table 3. Characteristics and average weekly expenditures of urban consumer units, and percent change in consumer expenditures (CE), Diary survey, and Consumer Price Index (CPI), 1980-81 and 1982-83

Item	1972-73	1982-83[1]	CE Percent Change	CPI Percent Change
Number of consumer units (in thousands)	59,159	71,356		
Consumer unit characteristics:				
Income before taxes[2]	$187.46	$427.21	128	
Size of consumer unit	2.8	2.6		
Age of reference person	47.1	46.4		
Number in consumer unit:				
Earners	1.3	1.3		
Children under 18	.9	.7		
Persons 65 and over	.3	.3		
Average weekly expenditures:				
Food, total	33.11	56.16	70	104
Food at home, total	23.79	36.32	53	99
Cereals and bakery products	2.79	4.82	73	118
Meats, poultry, fish, and eggs	9.35	11.55	24	70
Dairy products	3.23	4.90	52	89
Fruits and vegetables	3.48	5.99	72	102
Other food at home	4.93	9.06	84	160
Food away from home	9.32	19.83	113	120
Alcoholic beverages	2.32	5.51	138	72
Tobacco products and smoking supplies	2.19	3.30	51	95
Personal care products and service	2.92	4.53	55	102
Nonprescription drugs and supplies	1.19	1.89	59	103
Housekeeping supplies	2.99	5.55	86	144

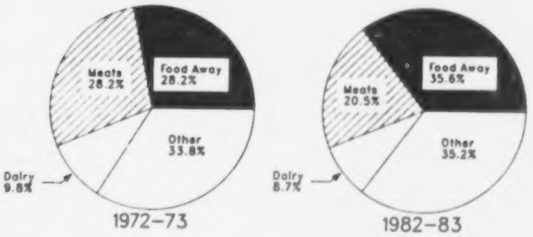
[1] Excludes students.

[2] Income before taxes is calculated using complete income reporters.

Although gasoline and motor oil expenditures rose sharply over the decade from 1972-73 to 1982-83, they actually decreased by 10 percent from 1980-81 to 1982-83. This recent decline can be attributed to falling prices and conservation measures over that period.

Diary survey data show that average weekly expenditures for food increased 70 percent between 1972-73 and 1982-83, well below the 104 percent price rise for food measured by the CPI. Food away from home expenditures increased 113 percent over the period, compared with a more modest increase of 53 percent for food at home expenditures. The changes in the CE data and the CPI for food away from home were quite similar, 113 percent compared to 120 percent, while there was a sharp difference in the changes for food at home, 53 percent compared to 99 percent.

Diary Comparison
The family food dollar



Between 1972-73 and 1982-83, CPI-measured prices increased more than average expenditures for all food at home categories. Food categories with the largest price increases tended to have the largest expenditure increases. However, prices for meats, poultry, fish and eggs, rose 70 percent, while expenditures for the component rose only 24 percent.

COMPARISON WITH PCE

As part of the evaluation of the survey results, BLS compared aggregate expenditure estimates obtained from the Interview survey with alternative, independent sources of data.

Historically, the principal source of independent estimates used for these comparisons has been the personal consumption expenditures (PCE) component of the National Income and Product Accounts, prepared by the Bureau of Economic Analysis, U.S. Department of Commerce. Since Commerce estimates cover the total population, comparisons are made on that basis and on the basis of aggregates rather than averages.

The PCE estimates represent the market value of goods and services purchased by the entire personal sector in the United States. The series is derived by complex methods which trace the flow of goods and services through the economy. While the data are not directly subject to the quantifiable sampling errors found in household surveys, they are subject to errors in the source data and to difficulties in applying complex procedures for allocating these data among the final demand sectors.

Differences in concept and coverage require adjustments to both CE and PCE data to permit a comparison. With these adjustments, comparisons can be made for many categories of consumer spending. The degree of concordance varies by component, as noted in the PCE table. Where differences in concept are so great as to make the comparison meaningless, such as for health care or education, the data are not shown.

Table 4 shows aggregates for selected expenditure categories in the 1980-81 and 1982-83 Interview surveys, adjusted for comparability with Commerce data, and the resulting ratios. The ratios indicate that the Interview survey, with some exceptions, produced lower estimates of consumer expenditures for the major categories of consumption than those recorded in the Commerce series. However, the relationship between the two series over time has remained generally constant.

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Table 4. Ratios of consumption: Interview survey compared to Personal Consumption Expenditures (PCE) in National Income and Product Accounts, 1980-81 and 1982-83

Item	Ratio of Interview survey aggregate to personal consumption expenditures (PCE)	
	1980-81	1982-83
Food	0.85	0.77
Food at home	.86	.74
Food away from home	.80	.83
Alcoholic beverages	.48	.47
Housing		
Rented dwellings[1]	.89	.89
Other lodging	1.14	1.17
Fuel, utilities, and public services[2]	.87	.87
Household operations[3]	.74	.82
Housefurnishings and equipment[3]	.67	.66
Apparel and services	.58	.60
Transportation	.95	.98
Vehicles[4]	1.02	1.05
Gasoline, motor oil	1.11	1.05
Other vehicle expenses	.63	.68
Public transportation	.87	.83
Entertainment	.71	.70
Personal care services	1.42	1.50
Reading	.70	.73
Tobacco	.67	.68
Miscellaneous	.55	.50

[1] Total rent in the Interview survey is contract rent, which includes utilities for some renters. In PCE, data are for space rent, excluding any charges for utilities.

[2] The Interview survey concept covers direct costs of utilities and fuels by homeowners and renters. PCE data cover total expenditures for utilities and fuels even if paid by landlords.

[3] Various subcategories were combined to approximate equivalent content.

[4] PCE concept of dealer margin as the purchase value of used cars could not be matched. Vehicle purchases, trade-ins, and sales from Interview survey data were combined to obtain an approximate total for new and used cars.

NOTE: Estimates are for the total population, urban and rural.

PUBLICATION PLANS

BLS plans on releasing data for the urban population for the 1984 Interview and Diary surveys this summer. This release will include data for the urban population. Data for the total population, urban and rural, for 1984 will be released later this fall.

Publication of quarterly data is scheduled to start in 1987. There will be a delay in releasing the data in order to improve the timeliness of the availability of annual publications and tapes. Data for quarter 1 of 1986 will be released next spring.

As the speed and efficiency in processing the data improve, the uses of the data and the number of users are expected to multiply. The timeliness of the ongoing survey enhances the CE as a valuable information source for public and private analysts examining the relationships of family characteristics, income and expenditures.

CONSUMER EXPENDITURE SURVEYS DIVISION: DEVELOPMENTS OF INTEREST TO USERS

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ABSTRACT

Users of Consumer Expenditure Survey (CES) data are familiar with the press releases, bulletins, and public use tapes issued by the Division of Consumer Expenditure Surveys (DCES) at the Bureau of Labor Statistics (BLS). However, other projects are underway in the Division which are of particular interest to data users. This paper will give an overview of these projects which include data comparisons, questionnaire redesign, a durables public use tape, integration of Diary and Interview survey data, and availability of data on diskette.

CONSUMER EXPENDITURE SURVEYS DIVISION: DEVELOPMENTS OF INTEREST TO USERS

Aside from their internal use in revision of the Consumer Price Index, data from the CES attract the widespread interest of a broad spectrum of professionals both public and private. Yet the exposure of these assorted economists, marketers, professors, and researchers to the work of the DCES at the BLS is limited to information presented in the series of press releases, bulletins, and public use tapes periodically issued from the CES. This paper intends to widen the perspective of CES data users by detailing ongoing developments of particular interest. These include data comparisons, questionnaire redesign, a durables public use tape, integration of Diary and Interview survey data, and availability of data on diskette.

DATA COMPARISONS

While it is a relatively straightforward process to produce expenditure estimates from the CES data base, the quality of those estimates can be evaluated in various ways. One approach is to compare expenditure estimates from the Diary and Interview surveys with estimates derived from alternative, independent sources of data. There are no truly comparable data by household characteristic. (If there were, the CES would not be necessary.) However, there are other sources of similar aggregate data which can be examined.

At its inception, the CES Data Comparison Team, within the Division of Consumer Expenditure Surveys, was organized to perform just this function. At the same time, and quite apart from these internal validation aspects, information requests from the public indicated an interest in these comparisons in and of themselves. As such, the work of the team has expanded to become an integral part of both Diary and Interview bulletin publications.

Inasmuch as the CES covers all types of expenditures, it is not surprising to discover many other sources of expenditure components. The major source of alternative consumption data is the Personal Consumption Expenditures (PCE) component of the National Income and Product Accounts produced by the U.S. Department of Commerce. The universe of categories represented in PCE is as comprehensive as the CES and provides many useful matches.

Smaller, more specialized data sources, which generally focus on limited categories of expenditures, constitute the remaining candidates for comparison. Detailed food expenditures from the Diary survey are examined against three sources of food data--the Food Consumption Survey of the U.S. Department of Agriculture, the Consumer Expenditure Study of Supermarket Business magazine, and the Supermarket Sales Manual of Progressive Grocer magazine. All other specialized comparisons involve using Interview survey estimates. Selected median shelter and utilities expenses are compared with data from the Annual Housing Survey of the U.S. Department of Commerce. The U.S. Department of Energy's Residential Energy Consumption Survey provides estimates of consumption of natural gas, electricity, and other household fuels; that same department's Residential Transportation Energy Consumption Survey supplies motor fuel estimates. Aggregate and per capita medical care expenses are measured against reports from the National Health Accounts of the U.S. Department of Health and Human Services. In addition to expenditures, the CES collects detailed household income data, estimates of which are compared to data from the Current Population Survey (CPS) of the U.S. Department of Commerce.

The process of creating comparable estimates from the CES and alternative sources requires an intimate knowledge of the differences in survey characteristics, which arise from the different purposes for which each survey is conducted. The reporting unit may differ between surveys. For example, the CES is a household survey, while PCE is mainly estimated from data such as the Census of Manufactures. Even when comparisons are made with other household surveys, care must be taken. The CES consumer unit corresponds to the combination of CPS families and unrelated individuals. The types of processing applied to raw survey data must be considered, as imputation, allocation, and other adjustment routines can clearly affect the estimates produced. More critical than reporting unit and processing differences in deriving comparable estimates are the disparities in item coverage and classification. It is the exception, not the rule, when the CES and an independent data source define an expenditure category identically. Component items normally must be aggregated in unique ways to permit comparison. Even then complete consistency may not be achievable.

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In sum, comparison of CES data with other sources insures that estimates are both reasonable and relevant. It also points out areas where the performance of the survey vehicles requires special attention. In addition, these comparisons provide material for CES dissemination activities and are an additional resource available to CES data users.

QUESTIONNAIRE REDESIGN

Since data from the CES are only as good as the Diary and Interview questionnaires used to collect them, a constant effort is maintained to insure that the collection instruments are clear and up-to-date. The CES Forms Redesign Team is charged with the responsibility for coordinating the introduction of questionnaire changes as they affect data collection and processing.

Two forces provide the impetus for revision of the questionnaires--one external, one internal. Externally, the universe of goods and services is constantly changing. Attractive new items appear that establish themselves through purchases by a significant number of consumers; existing items vanish as they become obsolete or change in response to outside factors. Internally, actual use of the questionnaires by interviewers and respondents discloses areas where confusion or misinterpretation is occurring.

In general, the CES questionnaires undergo changes about every 2 years, alternating between a minor 'housekeeping' cycle and a major 'restructuring' cycle. Changes characterizing the 'housekeeping' cycle do not affect the basic structure of sections in the questionnaires. Typical revisions include the correction of typographical errors, rewording of individual questions and interviewer's instructions to improve clarity, and additions or deletions to item lists enumerating specific classes of expenditures. During a 'restructuring' cycle, the fundamental format of sections in the questionnaires is revamped. Candidates for this type of revision are sections where major problems in data collection or processing appear that cannot be resolved by rewording, adding, omitting a question, or reordering some existing questions. In addition to these wholesale structural changes, any revisions of a 'housekeeping' nature, as described above, are made. It should be noted that most redesign changes apply specifically to the Interview survey questionnaire; normally, the Diary questionnaire is only marginally affected. The 1986 questionnaires represent an example of a minor revision compared to the 1985 questionnaires. No changes will be made in the 1987 questionnaires, awaiting a more comprehensive, major revision that will take effect in 1988.

What's new for 1986? Questions have been added to obtain information on purchases of telephone equipment and payments of alimony and child support. Eliminated is a housing characteristic question on the presence of complete kitchen facilities in the consumer unit. This brings the household characteristics questionnaire of the CES in line with similar questionnaires for other household surveys which the Bureau of the Census conducts.

The scope of some questions has been refined or expanded. The query for the amount of taxes contained in telephone bills has been enlarged to include miscellaneous charges. The question ascertaining contributions to IRA's drops a reference to only self-employed IRA's. Expenditure reports on stereo sound components will now include compact disc systems. Similarly, purchases of compact discs will be added to phonograph record and tape expenses. Changes have been made to questions concerning footwear and general sports equipment to distinguish athletic footwear bought specifically for sports-related use from such footwear purchased for general use. Another revision which takes effect in 1986, but does not affect the questionnaires, is the change in geographic areas sampled in the CES. Population shifts documented in the 1980 Census necessitate this change, which only impacts on metropolitan statistical areas of under 1 million persons.

The major questionnaire redesign planned for 1988 is likely to center on sections devoted to trips and vacations, and the construction, repairs, alterations, and maintenance of property. Trips and vacations data have traditionally raised collection problems, primarily due to the multitude of goods and services--food, gas, lodging, transportation, entertainment--that can be acquired. Add to that the existence of package deals where many of these expenses are combined and one can see the obstacles which can arise in collecting these expenditure data. The section on property construction and upkeep leads to similar problems given the number of jobs that exist--painting, electrical work, landscaping, insulation, masonry, etc. Possible underreporting by respondents, administration problems reported by interviewers, and computer processing difficulties issuing from the complexity of the section, make it a prime candidate for redesign.

1984 DURABLES PUBLIC USE TAPE

The primary focus of the Consumer Expenditure Survey is, as its title states, expenditure data. All output available from the current survey presents expenditures in either tabular or public use tape formats. However, in the process of collecting expenditure data, the Interview survey also gathers non-expenditure information such as ownership of major household appliances, and details on home and vehicle purchases. While other sources exists for this kind of non-expenditure information, the CES alone can make this data available by household characteristic.

In the mid-1970's, interest surfaced in making the nonexpenditure information available to the public from the 1972-73 CES. To meet this demand, BLS Report 455-5 was released, highlighting inventories of vehicles and selected household equipment for 1973. In addition, a public use tape containing an inventory of consumer durables was compiled. Items covered in this tape included major and minor household equipment, selected housefurnishings, motorized vehicles and selected trailers and boats.

Recognizing that interest in consumer durable information exists today, the CES staff has begun work on a durables public use tape for 1984 data from the continuing CES. The tape will cover three categories of items: major household appliances, vehicles, and trips and vacations. Unlike the 1972-73 durables tape, minor household equipment and housefurnishings data will not be on this tape, as the redesigned Interview survey questionnaire no longer collects inventory information on these items. Detailed trip and vacation data will be a new feature on the tape. While certainly not durables, they were added in response to requests from other government and private data users.

Users of the tape will be able to access data on an inventory of major appliances, such as refrigerators, cooking stoves, and clothes washers. Information on how these appliances were acquired will be present. Purchase, rental, and installation expenses for new appliances will also be available.

Data on the acquisition and disposal of vehicles will closely resemble that found on the 1972-73 durables public use tape. Users will be able to examine many characteristics of purchased vehicles, such as make, model, and the presence of options, like automatic transmission and air conditioning. Details on facets of the purchase transaction including trade-in allowance, down payment, and source of financing will be available. Added to the vehicle disposal information on the tape will be amounts of reimbursement for theft, damage or other loss.

Much of the trips and vacations data on this tape has never been released to the public before. All-expense paid package trips will be present, divided into their food, lodging, transportation, and other expense components, when respondents reported the breakdown. All methods of transportation used on each trip will be highlighted, and information on the length and main purpose of each trip will be accessible. Users will also be able to calculate the amount of a trip's expenses to be deducted as a business expense, or to be reimbursed by an employer or other person outside the household.

The current timetable calls for the release of the 1984 Durables Public Use Tape in February 1987. The 1984 Interview Survey Public Use Tape will be released about 4 months sooner. In tandem, these tapes will enable users to perform more extensive analyses of consumer spending.

INTEGRATION OF DIARY AND INTERVIEW SURVEY DATA

While the CES collects a wealth of data on the spending habits of American consumers, two features of the Diary/Interview collection methodology complicate the task of organizing this information to obtain a complete profile of expenditures. First, neither component of the survey is totally comprehensive. Important segments of consumption are ignored by each instrument. The Diary survey does not obtain expenses on overnight trips and vacations, while the Interview survey omits outlays on detailed food items, housekeeping supplies, postage, and non-prescription drugs. Second, the Diary and Interview were not designed to be mutually exclusive. In fact, a preponderance of expenditure items are covered in both components. As dual estimates can be calculated for these items, the question arises as to which estimate, Diary or Interview, should be included in a profile of expenditures.

The CES Integration Team of the Division of Consumer Expenditure Surveys addresses these issues with the goal of producing publications with a more comprehensive picture of spending than is available from either Diary or Interview survey publications alone. After estimating the level of item detail to be presented in expenditure tablulations, a method must be devised to evaluate the estimates for these items from each survey to determine which data source to select. In the 1972-73 CES, data source selection for integration of data followed a simple rule: expenditure estimates would be taken from the Interview survey for all items except detailed food and those items uniquely collected by the Diary survey. Adjusting for the difference in time periods covered by each survey posed a more pressing concern than selecting between data sources in 1972-73.

Inasmuch as differing time periods were no longer a concern in the continuing CES, since the Diary and Interview components went into the field at the same time, attention could be focused on devising a suitable method of source selection. Starting in April 1984, investigation by the CES Integration Team has culminated in the choice of computing mean square errors for each estimate as a tool for data source selection. The mean square error is based on the coefficient of variation for each component's mean estimate and a bias term relating that estimate to one derived from PCE. A confidence level is factored into this bias term depending on how well the PCE definition of the estimated item matches the CES definition. The mean square error is defined as:

$$MSE = CV^2 \, . \, \overline{X}^2 + (\overline{X} - \overline{X}\,(PCE))^2 \, . \, CL$$

where CV = coefficient of variation for the item in the Diary or Interview

$\overline{X}$ = item mean of either the Diary or Interview

$\overline{X}(PCE)$ = item mean calculated from PCE

CL = PCE means are multiplied by a factor of 1, .5 or 0, based on the completeness of information used in comparing CES and PCE item definitions.

In general, the estimate with the lower mean square error will be selected for the integrated publication, though exceptions may occur. For example, an exception might be made in categories where expenditure estimates commonly reflect outlays less reimbursements, such as medical care. The time frame and structure of the Interview survey make it superior to the Diary in collecting reimbursements, thereby making Interview survey expenditure estimates somewhat 'truer.' Of course, either the Diary or Interview can be automatically selected as the data source if information for the item is collected uniquely in only one of the surveys.

Once sources have been identified for each item, programs will be written to compile and aggregate the proper estimates from each component into publication tables. Such tables containing 1984-85 data will form the basis of a proposed integrated bulletin with a tentative release date of August 1987.

DATA ON DISKETTE

The usual media for dissemination of CES data have historically been printed materiel--news releases, reports, bulletins, Monthly Labor Review articles and research summaries--and reels of magnetic tape--the sets of public use tapes. In the foreseeable future, diskettes will join these media as a source of data.

In September 1985, the BLS moved to make time-series data contained in LABSTAT, available to the public on diskette. The LABSTAT computer system incorporates data storage, retrieval, and analysis capabilities for over 150,000 time-series created from BLS statistical surveys. Among the major price, employment, and productivity programs represented in LABSTAT are: Consumer Price Indexes for the Urban Population; Producer Price Indexes; National Industry, Employment, Hours, Earnings Statistics; Industry Productivity Statistics; and Productivity and Cost Measures.

Six methods are available for retrieving data from the LABSTAT data base. Each provides a different type of service, ranging from data presentation for statistical analysis to special formatting, tabulation, and charting for data display. Analytical capabilities encompassed in LABSTAT feature the Statistical Analysis System (SAS) and the Statistical Package for the Social Sciences (SPSS). Two seasonal adjustment programs are also available. All data are considered available to the public, regardless of whether they have actually been released in print or any other form. Such diskettes, available on a subscription basis, would be packaged with documentation outlining data uses, limitations, and future revisions. The files would be formatted for compatibility with the more common PC applications programs.

As the CES is now continuous and is producing time-series information, CES data have become eligible for transfer to diskette. In fact, as a special project, CES tables requested by the Internal Revenue Service have been successfully downloaded to diskette for their internal use. It should be emphasized that this is a long-term development. No dates have been scheduled as yet for the general production of diskettes. Preliminary plans involve putting Diary and Interview bulletin publication tables on diskette. Purchasers of the diskette would also receive a printed copy of the bulletin which would act as documentation.

CONCLUSION

The CES projects described in this paper show that the work of the Division of Consumer Expenditure Survey extends beyond the regular publication/public use tape program with which most data users are familiar. Developments on data comparisons, integration of Diary and Interview data, the durables public use tape, and data on diskette promise users both additional new CES data and alternative views and formats of previously released data. These projects, like the CES itself, will be operating on a continuing basis. With the Forms Design Team insuring that the Diary and Interview questionnaires remain clear and current, users can look forward to a future of timely expenditure data for different types of households in a wide variety of forms from the CES.

CONSUMER PRICE INDEX: INCORPORATING RESULTS FROM THE CONSUMER EXPENDITURE SURVEY

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ABSTRACT

The first major activity in a Consumer Price Index (CPI) Revision is the implementation of a Consumer Expenditure Survey as a basis for selecting and weighting a new market basket of goods and services to be priced. Until these data are in hand, it is impossible to complete a revision of the CPI. It is essential to update the market basket periodically so that the CPI reflects price changes of items currently purchased by consumers. The Bureau of Labor Statistics is in the midst of a five year program to update and improve the CPI. This revision will use the CES data from 1982-84 and population distribution from the 1980 census to update the CPI market basket. The updated market baskets will be introduced in the January 1987 index.

INTRODUCTION

The first major activity in a Consumer Price Index (CPI) Revision is the implementation of a Consumer Expenditure Survey as a basis for selecting and weighting a new market basket of goods and services to be priced. The Consumer Price Index is a measure of the average change in the prices paid by urban consumers for a fixed market basket of consumption goods and services. It is calculated for two population groups. One group, the CPI Wage Earner and Clerical Worker Population, is composed of families and individuals where the majority of total income is derived from wage and salary occupations. The other group is composed of all urban families and individuals and is referred to as the CPI Urban Index. The CPI has three primary uses: first, as a measure of inflation and an indicator for Government economic policy; second, as a deflator of other economic series to adjust for price change and to translate these series into inflation free dollars; and third, as a means of adjusting income payments. More than 4.3 million workers are covered by collective bargaining agreements which provide for increases in wage rates based on increases in the CPI. In addition to private sector workers whose wages or pensions are adjusted according to changes in the CPI, the index affects the income of more than 60 million persons largely as a result of statutory action: 38 million social security beneficiaries, about 3 1/2 million retired military and Federal Civil Service retirees and survivors, and about 20 million food stamp recipients. Changes in the CPI also affect 23 million children who eat lunch at school. In addition, since 1985 the CPI Urban Index has been used to adjust the Federal Income Tax structure in order to prevent inflation induced tax increases.

The uses of the CPI as a measure of inflation and economic policy, as a deflator of other series, and as an income or benefits escalator requires that it be a current accurate index. Buying patterns change over time as a result of price change, demographic changes in the population, or changing tastes or habits, market basket of goods and services priced by the CPI needs to be periodically updated. If the CPI measures an outdated market basket, the significance of any inaccuracy is heightened and errors can result in misleading economic signals at crucial phases of the business cycle. Historically the Bureau has updated the CPI market basket approximately once every ten years. The last revision of the CPI took place in 1978 and incorporated a market basket of goods and services based on 1972-73 spending patterns. The Bureau is currently in the process of revising the CPI again. The new index will be available in January 1987. The revised CPI will utilize a market basket of goods and services based on 1982-84 buying patterns. The first step in updating the market basket of goods and services is to survey the index population to determine what they are purchasing. The Consumer Expenditure Survey of the Bureau of Labor Statistics fulfills this need and forms the basis for designing the new market basket. The remainder of this paper discusses the formulation of the CPI and how the new CPI market basket will change as a result of the data collected in the Consumer Expenditure Survey.

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CPI FORMULATION AND STRUCTURE

The CPI is defined as a fixed quantity price index and is the ratio of the cost of purchasing a set of items of constant quality and constant quantity in two different time periods. The index can be denoted by I_{t0} where t is the comparison period for which a new index number is to be [illegible]

$$I_{t,0} = \frac{\sum_i P_{it} Q_{ir}}{\sum_i P_{i0} Q_{ir}} \cdot 100$$

P_{it} is the price for the ith item in period t

P_{i0} is the price for the ith item in the reference period 0

Q_{ir} is the quantity of the ith item consumed in the expenditure base period r

For sampling and computational purposes the set of all consumer expenditures is divided into progressively smaller and more narrowly defined categories. At the top is the aggregation of all items. The index for this aggregation is the number [illegible] used in the news coverage of the CPI. The "all items" CPI is derived by combining all items in all areas priced for the CPI. The next level of aggregation is the major group level. The CPI has seven major groups: Food and Beverages, Housing, Apparel and Upkeep, Transportation, Medical Care, Entertainment, and Other Goods and Services. Each major group is divided into two or more expenditure classes (EC). The current CPI has 68 EC's. The EC's have been historically defined to represent classes of closely related expenditures. Examples include Bakery products, Household appliances and Boys' apparel. To select specific items for pricing the EC's are partitioned into item strata composed of one or more entry level items (ELI). ELI are the first stage sampling units in the selection of an item for pricing. Table 1 shows an example of the CPI coding structure.

TABLE 1. AN EXAMPLE OF CPI CODING

EC	STRATA	ELI	TITLE
01			Cereal and Cereal Products
	01		Flour and Prepared Flour Mixes
		1	Flour
		2	Prepared Flour Mixes
	02		Cereal
	03		Rice, Pasta and Cornmeal
		1	Rice
		2	Macaroni, Other Pasta Products and Cornmeal

Item strata and ELI are designed to be relatively narrow homogeneous groupings of similar items which can be priced in the market place. Prices are collected for each item strata in the CPI. The number of prices collected for a particular item strata is based on a variance cost model which takes into account the relative importance of an item, the variance of the item strata index, and the cost of collecting the price data. For example, food items have a lower marginal cost of collection than other items since grocery stores stock a large selection of items and, therefore, the cost of pricing an additional item once the data collector is in the outlet is low. Given the choice to price an additional food item or some other item with similar relative importance and variance characteristics, the more efficient use of resources would be to price the food item.

For item strata including a broad range of product types such as girls' apparel, entry level items are defined to facilitate selection of a particular item for pricing. Girls' apparel is composed of seven ELIs -1) coats and jackets, 2) dresses, jumpers and suits, 3) sweaters, blouses and tops, 4) skirts and pants, 5) active sportswear, 6) underwear and sleepwear and 7) hosiery and other accessories. One or more of these ELIs are selected for pricing in each of the 91 local areas in which CPI prices will be collected. The selection is a statistical sampling procedure with the probability of selection equal to the relative importance of the ELI expenditure within the strata. Table 2 shows the average expenditure and the probability of selection for the ELIs in girls' apparel.

TABLE 2. AVERAGE EXPENDITURES AND PROBABILITY OF SELECTION FOR THE ELIS IN ITEM STRATA GIRLS' APPAREL

ELI	Title	Average Expenditure	Probability of Selection
1	Coats and Jackets	$ 6.33	.099
2	Dresses, Jumpers and Suits	11.01	.172
3	Sweaters, Blouses and Tops	21.82	.341
4	Skirts and Pants	22.46	.351
5	Active Sportswear	5.31	.083
6	Underwear and Sleepwear	5.50	.086
7	Hosiery and Other Accessories	6.99	.109

No[illegible] 1982 [illegible] Interview Survey data published in bulletin 2246 Consumer Expenditure Survey: Interview Survey 1982-83 U. S. Dept. of Labor, Bureau of Labor Statistics, February 1986

In the current CPI the probability of selection for an ELI within each of the local areas was based on 1972-73 Consumer Expenditure Survey data tabulated at the regional level. In the revised CPI a rotating sample of areas (one fifth of the geographic areas each year), will have new probabilities of selection calculated annually at the regional level. The expenditure data used to calculate the proportions will be based on the two most recent years of Consumer Expenditure Survey data available.

CES DATA AND THE REVISED CPI MARKET BASKET

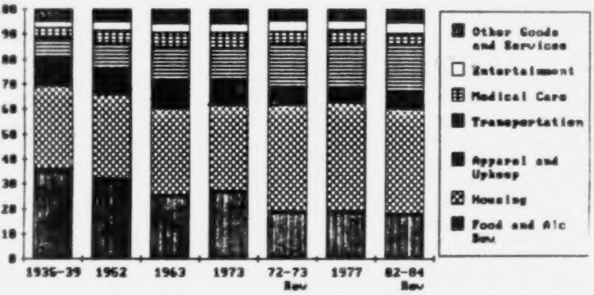
Analysis of the Consumer Expenditure Survey data in the construction of the revised CPI market basket confirms the continuation of many of the trends that were noticed in earlier revisions. The relative importance (i.e., the share of the total expenditure represented by the particular item strata or set of strata) for services continues to grow in relation to the 1972-73 data. Food at home continues to decline in relative importance and the relative importance of airline transportation continues to grow.

Relative importance can change as a result of changes in (1) the physical amounts consumed, (2) relative prices of goods and services, and (3) definition. An example of physical consumption change is the rapid growth of video cassette players and tape purchases. This growth has resulted in a larger relative importance for TVs video and audio equipment. The impact of relative price change on relative importance can be seen using an example of a consumer initially purchasing an equal dollar amount of steak and poultry. If the price of the steak rises twice as fast as the price of poultry and the consumer continues to purchase the same quantity of each, then the relative importance of steak in the consumer's budget may approach twice that of poultry. The change in relative prices may, however, induce a partially offsetting change in relative physical volumes of consumption. The third cause of changes in relative importance, definitional, can be demonstrated by the CPI decision to change the definition of used cars to the sum of all used car purchases less the value of vehicles sold or traded in on new car purchases. This change resulted in a reduction in the used car weight. The remainder of the paper examines the changes in the CPI relative importance within the major groups and looks at some of the underlying reasons.

Food and Beverages

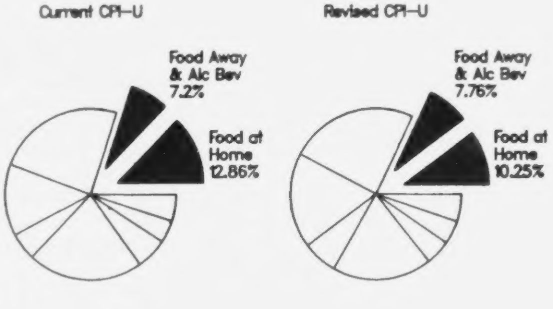
The food and beverages group continues the long established trend of declining relative importance in the CPI market basket. As Figure 1 shows, in the 1935-39 period food and beverages accounted for over one third of the CPI market basket. The preliminary cost weights for the revised CPI indicate that the new relative importance will be just over one sixth, nearly a 50% decline. All of the decline since the 1978 revision has taken place in the food at home category as shown in Figure 2. In fact, food away from home and alcoholic beverages have grown somewhat since the last revision. The trend towards declining food at home and increasing food away from home importance is probably related to the growing phenomena of two earner households.

gure 1. Changing Relative Importances
(1935/39 1982/84)



The decline in [illegible] ed since the last revision has resulted in publication changes for the CPI. The CPI currently publishes at the U.S. level 71 food at home item strata indexes, after the revision 52 will be published. The reduction represents the smaller pricing sample for food at home. Most of the old indexes will be combined with others so that a new higher level of aggregation will be available.

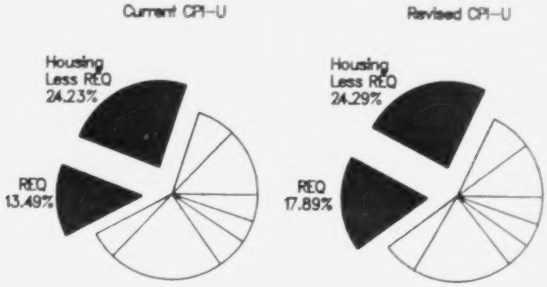
Fi [illegible] and Beverages



Housing

The relative importance for housing continues to grow. Even with the introduction of rental equivalence in 1983 the relative importance for housing reported in the CES has grown faster than the CPI relative importance. The change to rental equivalence converted the homeownership component from a method that included investment as well as consumption elements, to a flow-of-services approach that measures the cost of shelter services consumed by homeowners. The flow-of-services approach was implemented using the rental equivalence technique (REQ), which estimates the change in costs of renting housing services equivalent to those provided by owner occupied homes. As Figure 3 indicates, the largest change in housing is in homeowner's equivalent rent. The change in the cost weight from 13.49 percent of total expenditures to 17.89 percent reflects the differential growth in the value of owned homes and rents charged. The CPI estimates the REQ cost weight by asking CES households what they think their home would rent for and updates the index for price change by using the change in rent for housing similar to the owner stock as a proxy for the change in REQ. An analysis of CES and CPI rent survey data showed that during the past 15 years the quality of owner occupied housing has improved. Evidence of this quality improvement ranged from an increased number of rooms and bathrooms to an increased proportion of air conditioned homes. The proportion of the population living in owner-occupied dwellings has also increased.

Figure 3. Housing



The growth of certain other housing related expenditures has also resulted in changes in the CPI housing major group. New indexes will be published in the revised CPI when a sufficient sample is available for video cassette recorders and other video equipment, indoor plants and fresh cut flowers, care of invalids in the home, and home computers and other information processing equipment.

Apparel and Upkeep

Figure , Apparel and Upkeep

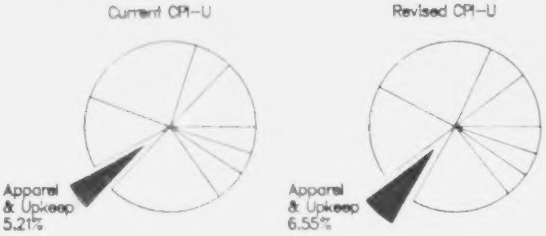
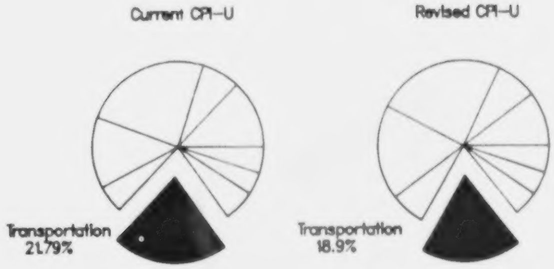


Figure 4 shows the change in relative importance for apparel and upkeep between the current CPI and the revised CPI. When the relative importance from the 1972-73 Consumer Expenditure Survey is compared with these two, its relative importance, 7.4 percent, is very similar to that of the revised CPI, 6.6 percent. Both of these relative importances are substantially higher than the current CPI's 5.2 percent. The similarity of the relative importances between the CES data in 1972-73 and 1982-84 suggests that expenditure proportions have remained fairly stable over the past decade. The difference between the CES data and the CPI suggests that average prices of purchased apparel have risen faster than the CPI index. These observations suggest either that consumers are buying a more expensive grade of clothing or that the CPI understates price change or some combination of the two. There is some prima facia evidence that the latter is at least partially the cause. For example, the index for women's suits has declined 14 percent since December 1977. Certain methodological problems with the large number of sales and with substituting new fashion year designs for the old contribute to this effect and are under careful review.

Transportation

Figure 5 shows that the relative importance of transportation has declined relative to the current CPI, although in this major group there are nearly as many increases as decreases at the EC or item strata level. One area which shows an increase is new cars. This differential reflects basic CPI concepts. The CPI prices a constant quality automobile and when new cars become available price change which are the result of quality changes and not true "price change" are factored out. The consumer however has not bought a "constant quality" automobile but has purchased an automobile with more and more features. This results in an increase in the relative importance for new cars in the revised index compared to the current CPI.

Figure 5. Transportation



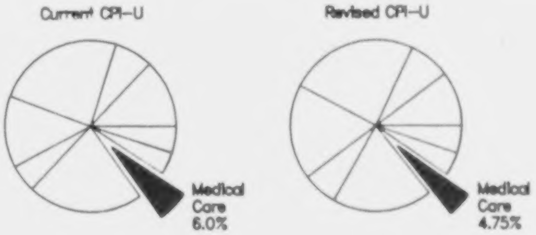
Another contributing factor in the change in the transportation weight is the decline in the relative importance for gasoline. This change is probably due to consumers' conservation efforts, including the purchase of more fuel efficient vehicles in response to the rapid increase in gasoline prices experienced in the late 70's. These factors tend to raise the relative importance for gasoline much more than consumers increased their consumption.

The relative importance for transportation has also changed for definitional reasons as evidenced by the decline for used cars from 3.6 percent to 1.3 percent. The change does not necessarily represent a shift from the purchase of used cars. It does however represent a change in the way the CPI defines the cost weight. In the past all purchases of used cars were valued at the transaction price, i.e., the negotiated price less any trade-in value. New cars were treated similarly. In the revised CPI the treatment of trade-ins and of outright sales by consumers will change. Trade-ins will continue to be netted out of the price of used cars, but, in addition, trade-ins on new cars will also be netted from used car purchases. A trade-in on a new vehicle is, in effect, a sale to the business sector. Ultimately another consumer will purchase the traded-in vehicle at a higher price since it will include the dealer margin (profit and preparation costs). Outright sales of vehicles from one consumer to another will be netted against the corresponding purchase since the sale/purchase is really an intra-population transfer of consumption, with one consumer giving up some other form of consumption in exchange for the car and the other consumer trading the car for the income to finance current consumption. The sale of a used car is construed as a negative expenditure providing the consumer with income with which to make other purchases. The remaining used car sales are comprised of the sale of vehicles from the business sector to consumers. This used car purchase along with the dealer markup on used cars purchased from dealers constitutes the new CPI weight for used cars.

Medical Care

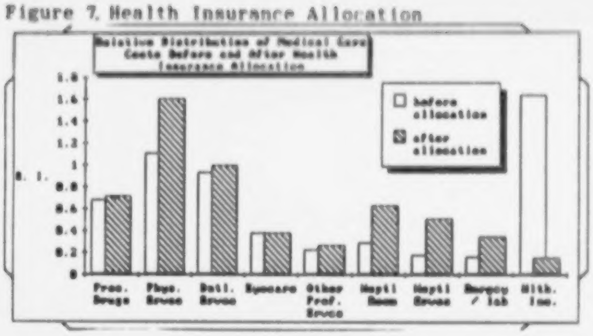
The relative importance for the revised CPI's medical care major group is about 25 percent less than the current CPI medical care component. The observed difference is at least in part affected by the way in which we pay for medical care. Major medical expenses are almost always partially paid for by health insurance. So while medical care prices have risen at a fairly high rate over the last decade, (156 percent vs 129 percent for all items), average family health insurance expenditures have risen only 19 percent. That health insurance expenditures have risen less rapidly than has medical care costs may be a result of reduced utilization of the policies or more probably reflects an increasing proportion of medical insurance paid by employers or government transfer payments.

Figure 6. Medical Care



Two changes in the medical care component are worthy of special note. In the current CPI health insurance relative importance is based on premiums paid by consumers and is allocated into benefits and retained earnings. In the revised CPI the health insurance relative importance will contain only the retained earnings. The benefits portion of health insurance has been allocated to the medical care service or commodity for which it is used. This change results in, ceteris paribus, a smaller relative importance for health insurance. However this allocation more accurately reflects the manner in which health insurance is priced and the true cost of medical care to the consumer. Figure 7 shows the relative distribution of each medical care item strata before and after the allocation from health insurance.

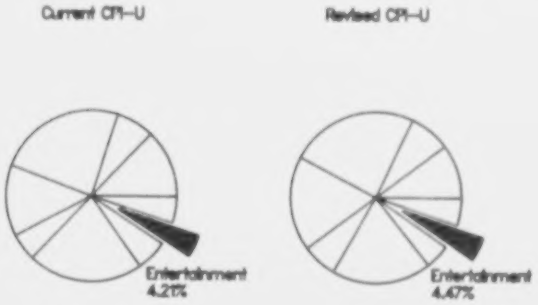
Figure 7. Health Insurance Allocation



The other change is a restructuring of the professional services index and calculation of an inpatient/outpatient index. The new construction results in a crossing of the line between commodities and services in that eyeglasses and contact lenses will be moved from medical care commodities into medical services and priced along with other eyecare services. This change facilitates the collection of prices for contact lenses and eye examinations. Certain outpatient services such as lab fees and x-rays will be moved from "Professional Services" to "Hospital and Other Medical Care Services".

Entertainment

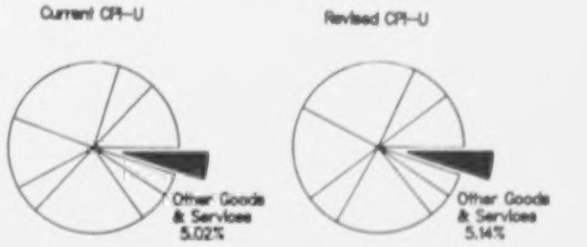
Figure 8. Entertainment



This major group shows almost no change between the current CPI and the revised CPI. However, the development of pricing methodologies for pet services, veterinary services and other entertainment services has led to a published index. In addition, separate indexes will be published for club membership and fees and for fees for participant sports.

Other Goods and Services

Figure 9. Other Goods and Services



The final major group, other goods and services is comprised of personal care, tobacco products and personal services. Figure 9 shows that a slight growth in relative importance has taken place in this category. All of the growth observed is in the personal services area. In response to this growth the revised CPI will publish separate indexes for legal fees, banking and accounting fees, and cemetery lots and funeral expenses.

CONCLUSION

The Consumer Expenditure Survey data have been tabulated and used to update the Consumer Price Index market basket of goods and services. The updated market basket will ensure that the CPI remains a current and accurate measure of the prices that consumers pay for well into the next decade.

WEIGHTING THE CONSUMER EXPENDITURE SURVEY DATA: THE GLS STUDY

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ABSTRACT

Weighting is the method by which a sample of interviewed households is made to represent the population. This paper describes the generalized least squares (GLS) weighting procedure. The procedure, developed at the Bureau of Labor Statistics to improve the accuracy of Consumer Expenditure (CE) Survey estimates of counts of consumer units, will soon replace the principal person method currently used in the CE Survey. The GLS procedure is the result of a major theoretical and applied research effort at the Bureau devoted to developing a new method that would address weighting problems resulting in part from the use of principal person weighting. A description of the GLS weighting adjustment method and results from applying the method to several quarters of CE data covering the early 1980's are presented.

INTRODUCTION

The Bureau of Labor Statistics, through a contract with the Bureau of the Census, collects information on consumer expenditures, income, and demographic characteristics from a two-component Consumer Expenditure (CE) Survey. The components are distinguished by survey instrument, the first being a three hour Interview conducted with four rotating panels of consumer units (CU's) for five consecutive quarters, and the second being a two-week Diary of expenditures to be completed in large part by the sampled consumer units. Each component in effect constitutes a separate survey, since there is no overlap between the respective samples, the only relationship between the two being that the samples for each are chosen from the same frame at the same time. There is considerable overlap in the kinds of information collected between the surveys, primarily though not exclusively demographic in nature. Some overlap also occurs in information collected on expenditures, though the surveys are oriented toward obtaining different kinds of expenditure information. The Interview component is designed to provide information on major, infrequent purchases, "infrequent" meaning for practical purposes with a frequency of less than two weeks to a month. The Diary component is oriented toward purchases with more than weekly or biweekly frequency, food purchases being one of the major categories of interest. However, the Diary component is not explicitly limited to certain categories at present, in part to minimize confusion for the households completing the Diary. This is the primary source of overlap in expenditure information collected.

In this paper the emphasis is on improving CE Survey estimates of counts of consumer units partitioned into categories of demographic and economic interest, such as family composition and tenure status. The mode of accomplishing this improvement is to develop a technique of weighting adjustment that uses ancillary information on the age, race, and sex composition of persons as part of a uniform, mean square error (MSE) minimizing estimation procedure for CU totals. The exposition first briefly reviews the current practice for weighting adjustment and estimation in the CE Surveys. We then introduce a method of weighting adjustment first proposed by Don Luery and considered by Anthony Roman [1] of the Bureau of the Census. This generalized least squares (GLS) method is extended to define a procedure that integrates overlapping demographic information from the surveys in a way that should reduce the MSE and improve the accuracy of key CU counts. We then describe application of the GLS procedure to thirteen quarters of data from the Consumer Expenditure Survey covering 1980 IV - 1983 IV and its evaluation against the current principal person weighting procedure.

CURRENT PROCEDURES

The basic sampling weights for the CE Surveys are determined according to the size measured in number of housing unit addresses of each of seven subframes from which sample addresses are chosen, relative to the sample size allocated to the subframe. The basic weight assigned to an address is the inverse of the probability of selection of the housing unit. These basic weights are adjusted by application of a "weighting control factor" to the basic weight, accounting among other things for unexpectedly clustered addresses, as for example, student housing in the "area segment" subframe. A further "noninterview factor" is applied to adjust for inability to obtain an interview for some sample units, for example, those in occupied housing units who refuse to participate or units where no one is home. The adjustment is performed within groups of consumer units defined by geographic area, tenure, household size, and race. All consumer units within each household at an address are assigned this adjusted weight. Each member then receives a "second stage" adjustment to force the population of members classified into 48 age, race, and sex categories, as estimated by the CE Surveys in a given month, to equal the U.S. population for that month in those age, race, and sex categories. These latter quantities are called "control totals" and we will refer to this as a weighting control procedure. The sources of control totals for the CE Surveys are the U.S. Census and the Current Population Survey (CPS). A single "principal person" is chosen to represent the CU. The CU receives this person's weight. The "principal person" is the female of a reference person and spouse pair, or the reference person when no spouse is present. If the "principal person" is male, his weight and hence his CU's weight is multiplied by a "principal person factor" to adjust for a historical tendency for males to be underrepresented compared with females. The current stages of weighting beyond noninterview adjustment have two objectives: weighting control to add additional information to the estimation process, and the assignment of a weight to the CU, a sampling unit unique to the CE surveys.

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The resulting "principal person" CU weights are then used for computing estimates of totals and averages for various quantities of interest from each of the surveys. To make "integrated" estimates of average expenditures for various demographic, tenure, and income categories, a selection is made from one or the other survey when information is available from both at a very detailed level of expenditure classification, by Uniform Classification Code (UCC).

Although no attempt is made at present to make "integrated" estimates of counts of persons or CU's within the demographic and economic categories for which average expenditures are currently computed, interest has arisen in making this "integration". There is the need to know which survey, the CE Diary or Interview, is producing the best estimate for each of a number of counts. More generally, there is a need to combine information from both surveys in arriving at a single estimate more efficiently than merely "integrating" them. The alternative generalized least squares procedure described next is designed not only to perform the weighting "control" function of the current method, but this weighting "composition" function as well.

THE GENERALIZED LEAST SQUARES PROCEDURE

The Adjustment Equation and Computational Layout

The GLS procedure adjusts the sample weights after noninterview adjustment by minimizing the weighted squared adjustments subject to a set of linear "control" constraints the adjusted weights must satisfy. The problem can be expressed as

$$\min_W (\Omega-W)'\Lambda^{-1}(\Omega-W) \text{ subject to } MW = N \qquad (1)$$

where Ω = the pre-adjustment sample weight vector of dimension nx1, where n is the sample size;

W = the adjusted sample weight vector of dimension nx1;

Λ = the GLS weighting matrix of dimension nxn;

M = a kxn matrix whose columns provide the counts of k items for each of n CU's;

N = a kx1 vector of known "control" counts for each of the items corresponding to the rows of M.

In the usual single sample situation, the rows of M and N correspond to persons in each of a number of age, race, and sex categories, or any other item on which there is known control information that is also collected for each sample unit. The CE context is characterized by two samples. This implies dual control constraints, one set for each sample. In addition, it suggests the possibility of equating the survey counts of items on which no control information exists, but on which comparable information is collected in each sample. Both the "control" and "composition" aspects of weighting adjustment are straightforwardly accommodated in the constraint system MW = N by a suitable partitioning of matrices. Thus, let

$$\Omega = \begin{bmatrix} \Omega_1 \\ \\ \Omega_2 \end{bmatrix}; \qquad \Lambda = \begin{bmatrix} \Lambda_{11} & \Lambda_{12} \\ \Lambda_{12}' & \Lambda_{22} \end{bmatrix};$$

$$M = \begin{bmatrix} M_1^0 & 0 \\ 0 & M_2^0 \\ M_1^c & -M_2^c \end{bmatrix}; \quad N = \begin{bmatrix} N^0 \\ N^0 \\ 0 \end{bmatrix};$$

where subscripts index the samples, superscript "0" refers to control items, and superscript "c" refers to composite items.

The solution of the minimization (1) is given by the following generic formula, with appropriate substitutions for the matrices Ω, W, Λ, M, and N as above for the two sample control/composition case:

$$\hat{W} = \Omega + \Lambda M'(M\Lambda M')^{-1}(N-M\Omega). \qquad (2)$$

The weight MSE matrix is Λ; Λ can be determined from the sample data under certain assumptions about the sampling process. For details, see Zieschang [2,3]. Expression (2) for $\hat{W}$ was computed for each test quarter of the CE Surveys for the full sample and the twenty sample replicates.

Bounding Extreme Weight Adjustments

Experience with weights generated by the GLS procedure indicated little propensity to generate extremely large weights or proportional weight adjustments relative to those produced by the current principal person procedure. However, occasional extreme downward adjustments did occur in either the replicate or full files of both surveys that resulted in negative adjusted weights. These negative values preclude interpretation of the weight as the number of consumer units represented by a given CU, and are conceivably indicative of high variance estimates of derivative statistics for some set of small subdomains of the CE universe.

The method used to deal with this problem simply recodes the adjusted weight when it falls outside a tolerance interval containing the unadjusted weight. In this study the tolerance interval was set, with lower bound only, at one fourth of the unadjusted weight. For example, if the unadjusted weight was 16,000, the lower bound would be set at 4,000. Upper bounds were not enforced because the "pre stage two" weight, Ω, becomes progressively biased downward as population growth occurs between sample selections. Secularly rising proportional adjustments are therefore reasonable and upper limits on tolerance regions of weights potentially risky. Setting a lower bound only will bias up estimates of totals produced with the recoded weights; however, evidence from the empirical trial below clearly demonstrates that this bias is extremely small for the twenty-five percent lower bound used here in the CE context.

Another consideration involves the computation of variances and the appropriate tolerance interval lower bound for proportional adjustment in the replicates, given that this is set at one fourth of the unadjusted weight in the full file. The replicate proportional tolerance should be "looser" than that of the full file to produce accurate variance estimates, though how much "looser" is not straightforwardly determined. However, comparison of recoded coefficients of variation (CV's) of estimates of CU subdomain size and mean family income before tax with CV's generated by the unrecoded GLS weights indicated very little effect here either. The proposed method therefore stands as an attractive and viable near term alternative to the current procedures.

Time Interval Selection and Control Subdomains

To evaluate the performance of the GLS procedure in the context of the Consumer Expenditure Surveys, the time interval for weighting batches of consumer units was set at one quarter. Current principal person procedures are implemented on a monthly basis; however, this results in weighting batches of consumer units of between 300 and 400 for the Diary Survey, or for rotation groups in the Interview. The number of CU's drops to 150-200 for the sample replicates (used for variance calculation) that are weighted in parallel with the full sample. Batches of this size tend to have patchy coverage of CU-member age/race/sex characteristics that are to be controlled to known Census/CPS counts. This is not surprising, since there are 48 control categories within which these at most 300-400 CUs' weights are being adjusted. Current procedure deals with this by a large amount of collapsing of control cells into one another, sacrificing control detail. The primary purpose for monthly weighting adjustment is to insure that the Diary months and Interview rotation group/months are correctly scaled relative to one another in the aggregate. This purpose should be served well enough by controlling the CU member weights in each month or rotation/month so that they add to the total population for that month.

To provide better coverage of the control cells, quarterly weighting is prefereable to monthly because the weighting batch is three times as large. Under current principal person procedures, going to a quarterly time interval would require sacrificing the aggregate population controls on Diary months and Interview rotation/months within quarter. On the other hand, a quarterly GLS procedure for CU member control cells can accomodate these aggregate monthly and rotation controls simply as additional linear constraints to be satisfied. It is therefore able to take advantage of the better control cell coverage of large quarterly batches of data while retaining essential controls at the month and rotation/month level.

Even for quarterly batches of data, these coverage considerations lead to an aggregated set of controls for the Diary Survey via a reduction in the number of member age groups from the available twelve to the six used in CE publications. Certain of the 48 detailed age/race/sex cells were empty for the Diary in either the full file or replicate samples in certain quarters. The 48 controls were applied to the aggregate of all rotations and months for each quarter in the Interview Survey, resulting in weighting batches of between 4200 and 4600, a size sufficient to preclude empty control cells in the full or replicate samples over the thirteen quarter period of data used for this study. The quarterly age/race/sex cells used in this study for the Diary and Interview Surveys are detailed in Table 1. In addition, monthly total population controls were added for the Diary Survey and rotation group/month total population controls were added for the Interview.

Table 1. Member Control Categories[a]

AGE	Black Male		Black Female		Nonblack Male		Nonblack Female	
	I	D	I	D	I	D	I	D
14 - 17	1		13		25		37	
18 - 21	2	1	14	7	26	13	38	19
22 - 24	3		15		27		39	
25 - 29	4	2	16	8	28	14	40	20
30 - 34	5		17		29		41	
35 - 39	6	3	18	9	30	15	42	21
40 - 44	7		19		31		43	
45 - 49	8	4	20	10	32	16	44	22
50 - 54	9		21		33		45	
55 - 59	10	5	22	11	34	17	46	23
60 - 64	11		23		35		47	
65+	12	6	24	12	36	18	48	24

[a] I = Interview
D = Diary

Composite Subdomains

Subdomains chosen for the rows of the M^c matrices of equation (2) include region of CU residence, sampling frame from which CU was drawn, tenure status of the CU, and four family types. These groupings are described in Table 2.

Table 2. Consumer Unit Composite Subdomains

REGION	
NEAST	= Northeast region
NCENTRAL	= North-central region
SOUTH	= Southern region
WEST	= Western region
SAMPLING FRAME	
CEN70	= 1970 Census frame
SPECPLAC	= Special places frame
ARSEG	= Area segments frame
NEWCON	= New construction frame
TENURE	
OWNER	= Owner consumer units
RENTER & STUDENT	= Rented consumer units including those in student housing
FAMILY TYPE	
ALL_HW	= All husband/wife consumer units
SPT1+<18	= Single parent consumer units
SINGLE	= Single person consumer units
OTHER	= All other consumer units

Region, tenure, and family type were chosen as composite subdomains because of their use in CE publications. Additional family type detail plus a set of CU size categories would exhaust the set of demographic subdomains on which tables are published for the CE. Augmenting the composite classification chosen above to include these additional groups would be a useful extension of the current study. The frame classifications were included because of prior knowledge that the frames from which CU's are drawn are the same size (since they are identical) between surveys. Also, improved composite estimates of numbers of CU's in each subframe should aid in planning future CE samples, and in assessing ongoing sampling performance and identifying problems in the management of the sampling process.

SOME EMPIRICAL RESULTS

Data

The GLS weighting procedure described in the previous section was applied to the CE Diary and Interview data for thirteen quarters covering 1980 IV through 1983 IV. The urban samples only were weighted, since rural CU's were eliminated from the universe from 1981 IV through 1983 IV. Urban controls included age/race/sex (A/R/S) population totals computed by the Bureau of the Census from (a) updated 1970 census data and (b) urban/rural population distributions obtained from the Current Population Survey (CPS). The controls for the 48 A/R/S cells were available monthly over the period covered. These were summed across months for each quarter and across A/R/S types for each month to obtain the quarterly A/R/S and monthly total population controls to be used by the quarterly GLS procedure. The summed monthly total population controls were divided by three for the Diary and by twelve for the Interview so that the controlled weights would sum to average total population for the quarter: in the first case across the three months within the quarter, and in the second across the three months and four rotations. The quarterly sums of the monthly A/R/S controls were divided by three to obtain average quarterly population in each of the 48 cells.

Other data files originated from the BLS CE database. The "pre-stage two" weight Ω to be adjusted was computed as the product of the base weight (BASEWT), weighting control number (WTCONTNO), and monthly noninterview factor (NONINTAD). The M matrix of counts of persons or indicators of subdomain membership was generated straightforwardly from the AGE, RACE, and SEX, and REGION, SERIAL, CUTENURE, and FAM_TYPE variables in the data base.

Control Errors

To provide an indication of the success of the GLS and GLS-recoded procedures in meeting the control objective of weighting (see Bounding Extreme Weight Adjustments in previous section), the percentage deviation of the adjusted weights from the control counts were computed. For comparison purposes, these deviations were computed for the currently used monthly principal person weights in the database as well. Table 3 displays the computed percentage control errors for 1980 IV, using BLS publication aggregates of age.

The principal person errors are under the headings suffixed 'FINLWT', while the GLS-recode

Table 3. Percent Control Errors 1980 Quarter Four

REF_RACE	REF_SEX	REF_AGE	D_FINLWT	D_RECODE	D_W_HAT	I_FINLWT	I_RECODE	I_W_HAT	CONTROL
			0.77	0.00	-0.00	2.58	0.01	-0.00	[illegible]
BLACK			5.74	0.01	-0.00	1.58	0.07	0.00	[illegible]
NONBLACK			0.30	-0.00	-0.00	2.72	-0.00	-0.00	[illegible]
BLACK	FEMALE		1.04	0.01	-0.00	2.41	0.15	0.00	[illegible]
BLACK	MALE		7.08	0.01	-0.00	0.56	0.00	0.00	[illegible]
NONBLACK	FEMALE		-0.42	-0.00	-0.00	0.97	-0.00	-0.00	[illegible]
NONBLACK	MALE		1.76	-0.00	-0.00	4.65	-0.00	-0.00	[illegible]
BLACK	FEMALE	16-24	0.14	-0.00	-0.00	15.55	0.55	-0.00	[illegible]
BLACK	MALE	16-24	25.01	-0.00	-0.00	0.11	0.00	0.00	[illegible]
NONBLACK	FEMALE	16-24	-5.28	-0.00	-0.00	2.64	-0.00	-0.00	[illegible]
NONBLACK	MALE	16-24	-3.89	-0.00	-0.00	6.11	-0.00	-0.00	[illegible]
BLACK	FEMALE	25-34	-1.60	-0.00	-0.00	-8.80	0.00	0.00	[illegible]
BLACK	MALE	25-34	-15.94	-0.00	-0.00	16.47	-0.00	-0.00	[illegible]
NONBLACK	FEMALE	25-34	-0.26	-0.00	-0.00	0.46	-0.00	-0.00	[illegible]
NONBLACK	MALE	25-34	6.16	-0.00	-0.00	4.81	-0.00	-0.00	[illegible]
BLACK	FEMALE	35-44	-9.90	-0.00	-0.00	6.78	0.00	0.00	[illegible]
BLACK	MALE	35-44	-13.75	-0.00	-0.00	-17.53	0.00	0.00	[illegible]
NONBLACK	FEMALE	35-44	0.32	0.00	0.00	0.55	-0.00	-0.00	[illegible]
NONBLACK	MALE	35-44	-5.28	-0.00	-0.00	-4.02	-0.00	-0.00	[illegible]
BLACK	FEMALE	45-54	9.63	-0.00	-0.00	1.89	0.00	0.00	[illegible]
BLACK	MALE	45-54	56.27	-0.00	-0.00	-10.88	-0.00	-0.00	[illegible]
NONBLACK	FEMALE	45-54	0.52	-0.00	-0.00	-0.22	-0.00	-0.00	[illegible]
NONBLACK	MALE	45-54	4.02	-0.00	-0.00	0.07	-0.00	-0.00	[illegible]
BLACK	FEMALE	55-64	-0.97	-0.00	-0.00	-21.00	0.25	-0.00	[illegible]
BLACK	MALE	55-64	16.22	0.09	-0.00	10.53	-0.00	-0.00	[illegible]
NONBLACK	FEMALE	55-64	0.75	-0.00	-0.00	0.45	-0.00	-0.00	[illegible]
NONBLACK	MALE	55-64	-5.11	0.00	0.00	11.06	-0.00	-0.00	[illegible]
BLACK	FEMALE	65+	16.01	0.07	-0.00	14.97	0.00	0.00	[illegible]
BLACK	MALE	65+	-18.94	0.00	0.00	-4.42	0.00	0.00	[illegible]
NONBLACK	FEMALE	65+	1.33	0.00	0.00	0.85	-0.00	-0.00	[illegible]
NONBLACK	MALE	65+	16.53	0.00	0.00	6.12	-0.00	-0.00	[illegible]

and GLS results are under those suffixed, respectively, 'RECODE' and 'W_HAT'. Prefixes 'D' and 'I' refer to the Diary and Interview Surveys, respectively. It can be seen in this table that the GLS weights hit the controls exactly, that the errors of GLS-recode are negligible, and that the errors of the existing principal person weights are often substantial.

Composition Errors

The success with which the composition objective was met on the composite subdomains was measured by the 'arc-discrepancy' between weighted CU totals from the Diary and Interview Surveys. This is computed as twice the difference between survey estimates divided by their sum, yielding an average measure of the proportional difference. Results for the region composite subdomains are presented in Table 4 for five test quarters. Principal person weights are indicated as 'FINLWT', while GLS-recode and GLS weights are indicated respectively as 'RECODE' and 'W_HAT'. The composite subdomains are labelled as in Table 2, with the blank subdomain referring to all CU's. As with meeting the control objective, GLS achieved the composition objective, equating the surveys exactly, GLS-recode generated negligible discrepancies, and principal person generated often substantial discrepancies between surveys.

Effects on Survey Discrepancies in Non-Composite Subdomains

Arc-discrepancies were also computed for subdomains related to BLS publication categories but not composited during weighting adjustment. These included six age of CU head categories, a tenure category for non-student housing renter status, and five CU size categories. Also included were five husband and wife family/age of oldest child classes, two single person CU/employment status classes, three multi-person CU/employment status classes, and an incomplete income response class. In all subdomains, GLS and GLS-recode usually were better than principal person on a quarter by quarter basis. Discrepancies in the incomplete income response category were large because income response is markedly different between the surveys, the most likely explanation involving the difference in survey instruments.

Table 4. Arc Percentage Discrepancies, Composite Subdomain Region

WEIGHT	_804	_811	_812	_813	_814
SUBDOM=					
FINLWT	4.30	5.43	0.56	1.55	5.16
RECODE	-0.36	-0.38	0.22	0.06	0.07
W_HAT	0.00	0.00	0.00	0.00	0.00
SUBDOM=NORTHEAST					
FINLWT	11.27	25.87	12.52	16.67	6.85
RECODE	0.39	0.30	0.01	0.26	0.01
W_HAT	0.00	0.00	0.00	0.00	0.00
SUBDOM=NORTHCENTRAL					
FINLWT	1.68	-1.54	-6.51	-8.45	5.64
RECODE	0.02	0.08	0.17	0.07	0.01
W_HAT	0.00	0.00	0.00	0.00	0.00
SUBDOM=SOUTH					
FINLWT	-7.29	-8.75	-10.90	-8.67	-4.64
RECODE	-0.01	-0.01	0.57	-0.02	0.25
W_HAT	0.00	0.00	0.00	0.00	0.00
SUBDOM=WEST					
FINLWT	15.52	7.55	10.57	10.06	14.55
RECODE	0.00	0.07	0.01	0.01	0.01
W_HAT	0.00	0.00	0.00	0.00	0.00

Effects on the Magnitude of Estimates of Subdomain Size and Mean Family Income Before Tax

Because GLS is proposed as an alternative to the current principal person methods, it is of some interest to know if there is a systematic or pervasive difference in estimates produced with the adjusted weights. To evaluate this, two types of variable were considered. The first was subdomain size, the estimated total for assorted subgroups of consumer units. The second was mean family income before tax (FIBT) for the same assortment of CU subgroups. The behavior of mean FIBT should be indicative of the behavior of other important survey variables, notably detailed expenditures, because mean FIBT and mean expenditure by product classification are highly correlated for the most part.

Ratios of estimates of CU population generated by GLS-recode and principal person weights, for both the composite and a set of noncomposite subdomains, were calculated. There was a tendency for GLS to estimate lower CU counts than principal person across time and across subpopulations for Diary and Interview.

Ratios of mean FIBT produced by GLS and principal person weights for complete reporters on the income question, in general, indicated that the relationships between the estimates derived from GLS and principal person weighting were opposite to those for population size. There was a small but pervasive tendency for GLS estimates of mean FIBT to be higher than those for principal person, an effect slightly more pronounced for the Diary Survey compared with the Interview.

Precision of Estimates of Subdomain Size and Mean Family Income Before Tax

Ratios of GLS with principal person estimates of the CV's of estimates of subdomain size and FIBT were computed to evaluate the precision of the estimates. The CV is the ratio of the standard deviation of an estimate with the estimate itself; the CV provides a 'scale independent' measure of the variability of the estimate. The standard deviations used in computing the CV's were computed using twenty independently (GLS or principal person) weighted replicate samples to generate twenty replicate estimates for each cell considered. The standard deviations were computed as the square root of the average squared difference between the replicate estimates and that of the full sample. The improvements in precision obtained with the GLS weights are rather striking for subdomain size, particularly for the composite subdomains in the Diary Survey. Results demonstrate that overtime, within the rather lengthy test period, GLS weighting improved the precision of estimates of CU population in each of the subdomains considered.

Results for mean FIBT reveal that over time GLS estimates are more precise than principal person for a majority of the composite subdomains in either survey. For the selection of noncomposite subdomains, Diary GLS mean FIBT estimates are about even with principal person in precision, while the Interview estimates are generally noticeably better using GLS.

As a final note to this section, the measurement of the precision of GLS versus principal person estimates of totals and means is only one of two components of the accuracy of the estimates as measured by mean square error. The relative CV's just discussed provide information on the variance component of MSE, but not the squared bias component. GLS weighting as specified here is unbiased if the sample design and execution are unbiased. A great deal of effort is expended by BLS and the Census Bureau to collect unbiased samples, and to the extent this effort is successful, the GLS estimates are probably more accurate than the principal person, even in the infrequent event they are slightly less precise. Of course to the extent that these efforts to achieve unbiasedness fail, this assertion loses force. However, even in this case, GLS provides a well-ordered tableau within which issues of survey bias can be examined.

CONCLUDING REMARKS

The results of this empirical evaluation of a quarterly GLS weighting procedure for the CE Surveys have been for the most part highly favorable to GLS when compared with the existing principal person procedures. Not only does the operational, recode variant of GLS display a high degree of numerical consistency with the control totals and in equating composite CU totals, it also demonstrably improves the precision with which the sizes of both the composite subdomains and a broad selection of other, noncomposite subdomains are estimated. For the analytical variable family income before tax, improvements in precision are minor at the subdomain level, but are of notable magnitude at the all CU level. The CV's of the Diary and Interview GLS estimates of mean FIBT average, respectively, eight and twelve percent below the same statistics computed for the corresponding principal person estimates. To the extent that these gains are inherited by estimates of mean expenditures, it is reasonable to expect that GLS weighting will improve the quality of the data published by the Division of Consumer Expenditure Studies. GLS weighting might also be used in future revisions of the Consumer Price Index, providing possibly more precise expenditure weights for producing that series.

REFERENCES

1. Roman, Anthony. "Proposal for Weighting Research in the Consumer Expenditure Surveys," interval memorandum, Demographic Surveys Division, U.S. Bureau of the Census, 1982.

2. Zieschang, Kimberly D. "Consumer Expenditure Survey GLS Weighting Study; I. Weighting and Estimation in the Consumer Expenditure Surveys," Division of Price and Index Number Research, Office of Prices and Living Conditions, Bureau of Labor Statistics, 1985a.

3. Zieschang, Kimberly D. "Consumer Expenditure Survey GLS Weighting Study; II. Empirical Evaluation of GLS and Principal Person Procedures," Division of Price and Index Number Research, Bureau of Labor Statistics, 1985b.

METHODOLOGICAL RESEARCH IN THE CONSUMER EXPENDITURE SURVEY PROGRAM

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ABSTRACT

This paper reports on two research projects involving the CE Diary Survey. One project, almost completed, examines the attitudes and record-keeping behavior of diary respondents. The other project, still in the data-collection phase, is an experiment to evaluate alternative diary formats. The paper discusses the reasoning which led to these projects and various aspects of their designs.

INTRODUCTION

Survey methods can always be improved. The Consumer Expenditure Survey Program supports ongoing methodological research designed to improve the quality of the CE data. This paper reports on two such research projects involving the CE Diary Survey. One project, almost completed, examines the attitudes and record-keeping behavior of diary respondents. The other project, still in the data-collection phase, is an experiment to evaluate diary formats.

The CE Diary Survey was designed to collect all of the daily expenditures of sampled consumer units over two consecutive weeks. A consumer unit is defined as one of the following: (1) the collection of all members of a household who are related by blood, marriage, adoption, or other legal arrangement; (2) a person living alone or sharing a household with others or living as a roomer in a private home or lodging house or in a permanent living quarters in a hotel or motel, but who is financially independent; or (3) two or more persons who live together and pool their income to make joint expenditure decisions. To be considered financially independent, at least two of the three major expense categories (housing, food, and other living expenses) have to be provided by the respondent.

The diary is especially effective for gathering information about small, frequently purchased items which are normally difficult to recall. These expenditures include grocery items, meals eaten out, household supplies, inexpensive articles of clothing, and personal care products and services. In addition to expenditures, data are also collected on the income, work experience and demographic characteristics of consumer unit members.

Each year data are collected from approximately five thousand consumer units in more than one hundred primary sampling units (PSU's) throughout the country. The sample is designed to be representative of the national, noninstitutional population. Besides the population residing in regular housing, persons residing in selected group quarters, such as college dormitories, are also represented. Weights are assigned to each consumer unit in the survey in order to provide estimates for the U.S. population.

RESPONSE ERROR IN THE DIARY

The program of research described here is intended to reduce response error, in particular response bias. We believe that most response errors in the diary come in the form of underreports of expenditures. It is difficult to imagine an individual recording more items than were purchased or consistently overreporting the price of items, but the failure to report all items is quite likely given the time and effort required to keep the diary. There is substantial evidence to support this assertion. Sudman and Ferber [3] found that the estimates from consumer diaries recorded by hand were less than those obtained using tape recordings, and estimates of food expenditures from the CE diary were below those from the National Accounts in both the 1972-73 and 1980-81 periods [2, 6].

Response errors can contribute either to the bias or variance in estimates. There are other nonsampling errors which also can increase the total error in a survey and are not included in the sampling variance given in published reports.

These errors include sampling bias, clerical errors and processing errors. We have concentrated on response error because we believe this form of nonsampling error represents the greatest threat to the integrity of our expenditure estimates. We are already using supplemental sampling frames, weighting and imputation to correct for sampling bias; and clerical and processing errors are more likely to be random than are response errors.

APPROACH TO THE STUDY OF RESPONSE ERROR

Response errors occur at the micro level and can be viewed as outcomes of the survey process. Figure 1 provides a picture of this process for the CE diary. The elements found here are similar to those found in other survey processes. One element which is not the same as in the typical survey situation is the respondent's record-keeping behavior. Usually the respondent's behavior is confined to thought processes and verbal responses. In the diary survey, however, the respondent has a more active role.

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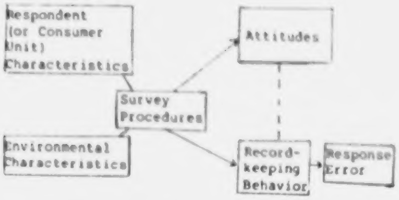
FIGURE 1. Diagram of the Survey Process Leading to Response Error


Respondent (or Consumer Unit) Characteristics
Attitudes
Survey Procedures
Environmental Characteristics
Record-keeping Behavior
Response Error

We can see from this diagram that respondent (or consumer unit) characteristics, in combination with environmental circumstances and the intervening survey procedures (including interviewer characteristics), influence both the respondent's attitudes toward the survey and his or her record-keeping behavior. The attitudes and record-keeping behavior (both thought processes and physical actions) are collateral in that they occur at approximately the same point in time. Attitudes are thought processes, but they are not a part of record-keeping behavior. To make this point more clearly, attitudes are not responsible for the outcome of the survey process; the record-keeping behavior is. Obviously, in many cases, attitudes and record-keeping behavior coincide; but there may be a number of instances where this is not true.

As a first step toward the reduction of response error in the diary survey, we have to determine the causes of response errors. Once the causal factors are identified, we can develop new survey methods for overcoming their effects. In order to identify these factors, we have to understand how the antecedent elements in the survey situation interact to affect both attitudes and record-keeping behavior. We then can complete our understanding of the causal sequence leading to response errors by examining the relationships between particular behaviors and response errors. Since response errors occur at the micro level, we would like to carry out our studies at that level. To this end, we are engaged in research to define measures of an individual respondent's response error [5]; but we also are interested in conducting aggregate analyses of the expenditures themselves by the demographic, attitudinal and behavioral variables. The remainder of this paper discusses two research projects which will provide us with our first information about the causal sequence outlined above.

THE SUPPLEMENTAL DIARY SURVEY: UNIVARIATE DISTRIBUTIONS

The causal sequence leading to response error is extremely complicated. We have designed our studies to build on one another until we are able to analyze the survey process in its entirety. I have already mentioned the work we are doing to develop measures of response error. Another study focuses on the role of attitudes and record-keeping behavior. The data for this project came from a supplemental survey administered to the diary respondents and interviewers in the second quarter of 1984 at the conclusion of the second diary week. This questionnaire, found in the appendix, was designed to measure the feelings and behaviors associated with keeping the diary. Some of the information also can be used to establish the environmental context.

Before proceeding with a discussion of the supplemental survey, let me mention the major drawback to a survey of this kind--social desirability effects. Most of the respondents are aware of the recommended method for keeping the diary. They are also aware of the kinds of attitudes which will be viewed in a favorable light. Therefore, there may be a tendency for respondents to give false answers in the socially desirable direction.

With this in mind, I want to turn to a review of the initial findings from the supplemental survey, some of which are presented in Table 1. One of the most important findings is that almost twenty percent (215) of the respondents completed at least one of the diaries by total recall. This means that no entries had been made in the diary during the week so the interviewer had to record as many of the previous week's expenditures that respondent could recall. The extent of recall poses an obvious threat to the quality of the data received from the diary survey. The fact that so many respondents completed the diary by recall complicates our analysis because they could not be asked most of the questions on the supplemental survey.

A potential problem with this type of survey is that all family members may not report their expenditures to the person keeping the diary. However, most (84%) of the CU's with more than one person indicated expenditures by members other than the record keeper were included; and slightly more than 70% of these respondents said that the expenditures were reported daily. Another 15% received reports every 2 to 3 days. Unfortunately, we do not know how complete the reports were.

In order to adequately evaluate the respondent's reports, we asked whether the expenditures for the two-week diary period were about what the CU usually spent. Forty percent of the respondents said that these two weeks did not give an accurate indication of their usual expenditures. Almost 75% of these respondents said their reported expenditures were lower than usual while 25% said they were higher. The large portion falling in the "lower" category may indicate an attempt by some respondents to misrepresent underreporting.

When we place a diary, we recommend that the respondent record expenditures on a daily basis to insure that none are forgotten. As a check on how closely respondents follow these instructions, they were asked how often expenditures were usually recorded. About 70% said they recorded expenditures immediately after they occurred or at the end of each day. Two-thirds of these respondents said they never entered an expenditure after the day it occurred. As for those respondents reporting a delay in recording expenditures, the reasons most often given were that they forgot, they were busy, or they were out of town.

When asked how they felt about keeping the diary, a number of respondents thought that the size of the diary was awkward, that the task required too much time and effort, and/or that interest in the diary declined over the two weeks. However, somewhat larger proportions felt that keeping the diary was enjoyable and/or beneficial. A smaller group of respondents found it difficult to obtain expenditures from other members of the CU.

Only about a quarter of the sample had any suggestions for improving the diary. While there was a variety of these suggestions, the most common involved changing the diary format. For instance, several respondents felt that the weight and quantity fields should be eliminated.

We also asked the interviewers to give their opinions of the attitudes and behaviors of the respondents. Almost a third of the time, the interviewer reported the respondent was reluctant to agree to keep the diary. According to the interviewer's opinion, almost a quarter of the respondents did not make a conscientions effort. These findings appear to coincide with the fact that nearly 20% of the diaries required a recall interview. Impressions about the respondents conscientiousness usually were gained from observing the state of the diary at pickup or from statements made by the respondent.

TABLE 1. Unweighted Frequency Distribution for Selected Variables from the Supplemental Diary

Method of Diary Completion(N=1184)		How Often Expenditures Recorded?(N=961)	
By Total Recall	18%	End of Each Day	57%
By Respondent	81	End of Week	6
No Answer	1	Every Few Days	16
		Immediately After Expenditure Occurred	15
		Other	6
Other CU Members Reporting(N=661)		Feelings About Diary(N=969)	
Yes	84%	Size Awkward	20%
No	15	Too Much Effort	22
Don't Know	1	Enjoyable	29
		Beneficial	27
		Boring	11
Frequency of Other Members Reports(N=550)		Lost Interest	15
Daily	71%	Hard To Get Others' Reports	8
At End of Week	6	Not Enough Space	2
Never	7	Other	14
Other	1		
Were Expenditures Represenlive?(N=1153)		Interviewer's Impression of Respondent(N=1149)	
Yes	50%	Eager (or Cooperative)	50%
No	40	Reluctant	33
Don't Know	4	Don't Know	17
How Expenditures Unrepresentative?(N=399)		Did Respondent Seem Conscientious?(N=1151)	
Higher	27%	Yes	67%
Lower	73	No	25
		Don't Know	8

*The total N is 1184, but percentages are based on the number of respondents for each question.

THE SUPPLEMENTAL DIARY SURVEY: SUMMARY MEASURES

The Attitude and Behavior Scales

Earlier I spoke of the possible inconsistencies between a respondent's attitudes toward the diary and his or her record-keeping behavior. As I pointed out then, behavior is what we must change in order to improve our estimates even though changes in attitudes and behavior will often coincide. I want to focus now on the relationship between attitudes and behavior found in the supplemental survey. This analysis will be potentially very useful for differentiating respondents with respect to the accuracy of their weekly expenditure reports. Complicating this effort is, again, the fact that respondents completing the diary through total recall could be asked only a few of the questions on the survey. I will deal with these respondents both separately and in conjunction with those who did record expenditures in the diary.

Because a number of items on the supplemental questionnaire were used to gather information about attitudes and behavior, a method was needed for summarizing these data so that concise statements about the relationship between attitudes and behavior could be made. Seven questions were chosen for use in forming an attitude scale. These questions are listed in Table 2 along with an explanation of how they were recoded to create the scale. The five behavioral items used to develop the behavior scale are also listed in Table 2. Both respondent and interviewer questions are used in the scales. Some inconsistencies exist between respondent and interviewer reports; but, by and large, they are in agreement. The recoded values for each set of items were added together to produce scale values. The higher the value on either scale, the more likely it is that the respondent gave an accurate expenditure report.

TABLE 2. Items Used in the Formation of the Attitude and Behavior Scales*

Attitude Scale
Respondent Q. 10
Yes = 1
No = -1
Don't Know or
Missing = 0

Respondent Q. 11-2
Checked = -1
not checked = 0

Respondent Q. 11-3
checked = 1
not checked = 0

Respondent Q. 11-4
checked = 1
not checked = 0

Respondent Q. 11-5
checked = -1
not checked = 0

Resepondent Q. 11-6
checked = -1
not checked = 0

Interviewer Q. 1
Eager or Cooperative = 2
Reluctant = -2
Don't Know or
Missing = 0

Behavior Scale
Respondent Q. 8
1 or 4 = 2
2 = -2
3 = -1
5, 6 or Missing = 0

Respondent Q. 11-7
checked = -1
not checked = 0

Responent Q. 11-8
checked = 1
not checked = 0

Interviewer Q. 2
Yes = 2
No = -2
Don't Know or Missing = 0

Interviewer Q. 4a
Total Recall = -2
Partial Recall = 0
No Recall = 2

* Refer to the supplemental questionnaire in the appendix for the text of the questions.

Respondents who completed the diary by total recall were assigned the most negative value on each scale. This seemed entirely appropriate in the case of the behavior scale. As for the attitude scale, I assumed their behavior indicated extremely negative attitudes toward the diary. We will see later, when these respondents are considered separately, that the assignment of these scale values may not have always been justified.

The Attitude/Behavior Typology

To further simplify the analysis, the scales were combined to form a four-category attitude/behavior typology. Greater weight was given to the behavior scale since, ultimately, the respondents must be judged by their behavior. Small positive values on the scale were considered to be negative as a way of compensating for social desirability effects. The method used for classifying respondents is given below:

Category 1: Behavior ≤ 2 and Attitude ≤ 1
Category 2: Behavior ≤ 2 and Attitude > 1
Category 3: Behavior > 2 and Attitude ≤ 1
Category 4: Behavior > 2 and Attitude > 1

This typology offers a contrast in respondent styles. The first category is composed of respondents with poor attitudes and poor record-keeping behavior. At the other extreme, in category four, are respondents who have the attitudes and behavior we desire. The middle categories are actually the most interesting. Category two includes respondents who express positive attitudes, but their behaviors do not coincide with these attitudes. In category three are respondents who have poor attitudes but desirable behavior. To emphasize the differences between these groups of respondents, I have given them descriptive names. These names along with the percentage of the sample of respondents falling in each category are found in Table 3.

TABLE 3. The Attitude/Behavior Typology (N = 1184)

Category 1 (Resisters)*	34%
Category 2 (Misleaders)	7
Category 3 (Complainers)	21
Category 4 (Accommodaters)	38

*Over half of the respondents in this category completed the diary through recall.

The members in the first category are labeled "resisters" because their attitudes and behavior clearly show that they resisted keeping the diary. Respondents in category two gave a misleading picture of themselves. They display positive attitudes toward the diary, but their behavior indicates otherwise. Respondents in category three, on the other hand, were quite the opposite. They disliked keeping the diary although they kept it correctly. Category four is made up of what might be called "model" respondents. They seem to be extremely accommodating and often enthusiastic.

This typology was created in the belief that it would differentiate respondents in terms of how well they reported their expenditures. A simple test of this hypothesis using information contained in the supplemental survey is offered in Table 4. Remember that respondents were asked how their expenditures for the diary period compared to their usual expenditures. Clearly, the "accommodaters" were the ones most likely to report their expenditures were about the same as usual or higher. The fact that the "complainers" said their reports were the same as usual more often than did the "resisters" and "misleaders" leads us to believe that, other than the "accommodaters, " they provided the most accurate expenditure reports. Again, it is the behaviors and not the attitudes which determine the nature of the expenditure report.

TABLE 4. Attitude/Behavior Typology and the Respondent's Comparison of Reported Expenditures to Usual Expenditiures

Reported vs. Usual	Resisters (N = 400) Total* Recall	Resisters (N = 400) Others	Misleaders (N = 84)	Complainers (N = 245)	Accomodaters (N = 455)
Same	46%	45%	49%	53%	63%
Higher	1	12	12	12	9
Lower	7	32	32	31	25
DK/NA	46	11	7	4	3

*Many of these respondents were asked only if their reported expenditures were the same as usual and not the follow-up question ascertaining the direction of the difference.

Other differences in the table are less dramatic (except for the total-recall "resisters"); but if we combine the "lower" category with the "don't know/not ascertained" category, a pattern does emerge. These categories can be combined if we assume that a respondent gives a "don't know" answer or no answer at all in order to avoid the question and that the probable answer would have been "lower". When the percentages from these two categories are added; we get results which, as expected, are the opposite of those from the "same" category.

I have already stated that the assignment to category one of respondents who completed the diary through total recall may not always have been justified. As it turns out, a number of these respondents were elderly, so they may have been physically unable to keep the diary. We do not know what their attitudes were or whether they would have kept the diary properly if they could have. However, an indication of this possibility is gained by examining the opinions given by the interviewers about the attitudes and behaviors of these respondents. This information is found in Table 5. In almost twenty percent of the cases, the interviewer said the respondent had a positive attitude or made a conscientious effort to report expenditures. While these data should be viewed with some skepticism since the interviewer's perception may be in error, more than forty percent of these respondents did say their expenditure reports reflected their usual expenditure.

TABLE 5. Interviewers' Opinions of Respondents Completing the Diary Through Total Recall (N = 215).

	Opinion of Attitudes		Opinion of Behavior
Eager or Cooperative	18%	Conscientious	17%
Reluctant	65	Not Conscientious	67
DK/NA	17	DK/NA	16

The typology developed here provides us with a better understanding of our respondents, and we should gain further insights when we examine the expenditures of the four groups. The attitude/behavior typology also can be used in the comprehensive analysis of the survey process pictured in Figure 1. The most striking finding from the present analysis is that attitudes and behavior are often inconsistent, especially in the case where negative attitudes are associated with positive behavior. Again, it is the respondent's behavior which we must change. However, in the process, we undoubtably will affect attitudes; and this certainly will be a desirable outcome. According to the earlier description of the survey situation, the same variables influence both attitudes and behavior. We have no control over consumer unit characteristics, but we can change the environmental context and survey procedures. The next section describes one attempt to improve survey procedures.

THE DIARY OPERATIONAL TEST

The Rationale

The supplemental survey was designed to give initial information about the attitudes and record-keeping behavior of diary respondents and also provide some data on environmental characteristics. As indicated above, we can use this information in conjunction with consumer unit characteristics, other environmental characteristics, and expenditure reports to examine the survey process. However, this examination will be incomplete because we have left the survey procedures largely unconsidered. Since each respondent receives the same diary, we cannot know how different survey procedures would affect expenditure reporting. The purpose of another project we have recently undertaken, the Diary Operational Test, is the evaluation of the effectiveness of different survey procedures.

The Design

The effects of two variables will be examined in a design which uses data from both a special research sample and the regular diary sample to make comparisons. One variable measures the effect of the current practice of having the diary and the quarterly interview survey conducted by the same interviewers. Since the quarterly interview involves so much more of the interviewer's time than the diary, it is suspected that less emphasis has been placed on the quality of data gathered from the diary survey. To evaluate the extent to which this is true, two interview conditions have been used. In the regular sample, interviewers have continued to conduct both surveys. In the research sample, interviewers worked only on the diary.

The other variable concerns the physical layout of the diary itself. The diary's format can either hinder or facilitate the reporting of expenditures. Recent research into reporting rates from both the 1972/73 and 1980/81 diaries indicated that explicit references to particular products in the diary increases the likelihood that these items will be reported, especially if the reporting rates are low to begin with [1, 4]. To evaluate diary formats which provide more explicit instructions as to the commodities to be reported, two experimental diaries were developed. Portions of these two diaries and the diary currently in use can be found in the appendix.

The experimental diaries have fewer expenditure categories than the current diary. They are also smaller and have more attractive covers. Respondents are not required to specify the quantity and weight of items they purchase when completing the two experimental diaries as they must in the current diary. What distinguishes the two experimental diaries from one another is the specificity of the item descriptions within each section. In experimental diary A, only blank lines for recording purchases are provided under each of the section headings just like the current diary; but, in contrast to the latter, the section headings contain more complete descriptions of the items to be reported. Experimental diary B has only category titles; however, the lines beneath each heading have specific items printed on them. Respondents need only check whether an item was purchased and give the price.

These two formats were chosen as the most promising alternatives for increasing the specificity of item descriptions. Diary A still gives the respondent the freedom to describe purchases, but it also requires a significant amount of writing. In the other experimental diary, much less writing is necessary; but the respondent must make classification choices which will take more thought than the blank-line condition and may be prone to error. Respondents must also add expenditures for all items appearing on the same line and record the total.

Table 6 depicts the features of a design employing the variables described above. In addition to the two experimental diaries, the current diary will be used as a control. These three diaries were administered at random to consumer units in the research sample, and the interviewers assigned to this sample did not work on the quarterly interview survey. The fourth cell represents the on-going "production" diary where interviewers conducted both surveys.

TABLE 6. Diary Operational Test Design

	Format	Interview Condition
Diary A	Blank-Line	Diary Only
Diary B	Specified-Line	Diary Only
Control	Current Diary	Diary Only
Production	Current Diary	Both Surveys

Two other features of this experiment are worth mentioning. The first is that an additional section was added to the household characteristics questionnaire which is very similar to the supplemental questionnaire discussed previously. We hope to be able to distinguish between the attitudes and record-keeping behavior of respondents exposed to the different experimental conditions. The other feature is a new method of collecting recalled expenditures. Currently, the interviewer records these expenditures directly into the diary using unscripted procedures and also asks a series of follow-up questions about specific commodities which the respondent may have forgotten to report (See appendix.). The new procedure, used with the two experimental diaries, involves a scripted recall section contained in the household characteristics questionnaire. One part of this recall section can be found in the appendix. The new recall section was designed to improve our ability to collect recall information; and, by keeping this data separate from expenditures recorded by the respondent, we will be able to determine the extent of recall in the diary.

The Sample

The sample cases for the experiment were drawn from 22 of our largest (self-representing) PSU's, and the random assignement of diaries to members of the research sample was carried out within each PSU so that approximately a third of the respondents in every PSU would receive one of the three format conditions. We expect about 1000 consumer units per research cell. These consumer units were interviewed between May and November of 1985. The production sample should have yielded about 1300 interviews during that period in the same 22 PSU's.

The Analytical Model

The simplest statistical model which will be used to estimate the effects of the experimental conditions is the following:

$$Y_{ijk} = \mu + \alpha_i + \beta_j + (\alpha\beta)_{ij} + \epsilon_{ijk} \qquad (1)$$

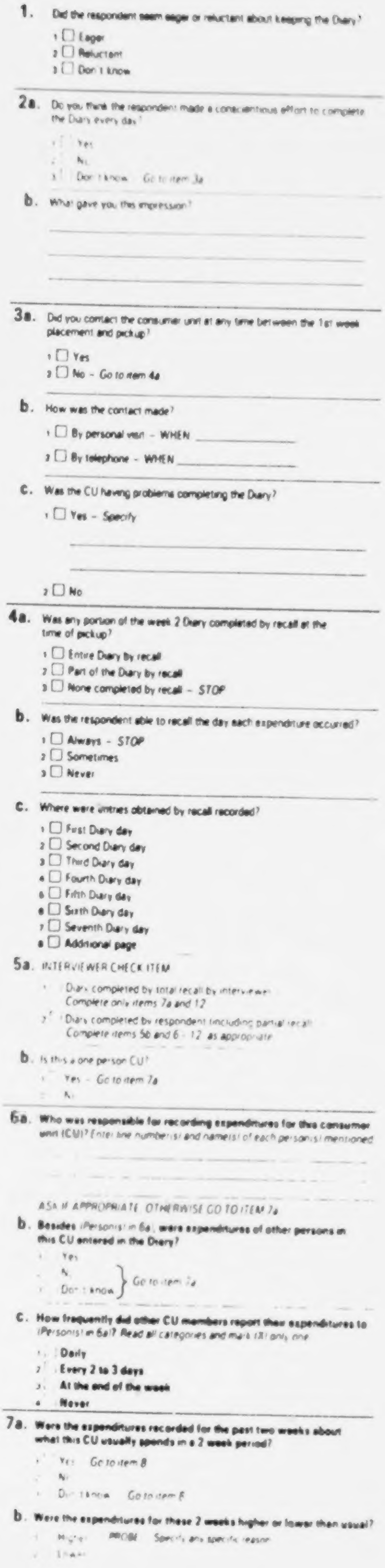
where Y_{ijk} is the amount of the expenditures reported by a respondent or, alternatively a measure of the response error in that report; α_i $(i = 1, 2)$ represents the effect of the interviewer variable, β_j $(j = 1, 2, 3)$ represents the effect of the format variable, $(\alpha\beta)_{ij}$ is the interaction term and ϵ_{ijk} is the error. Estimation of the parameters of this model is complicated by the fact that we do not have a complete factorial design. The two new format conditions did not appear in cells where interviewers worked on both surveys. Therefore, the interaction term in (1) cannot be estimated. The two treatment effects can be estimated in a roundabout manner where each is considered individually. The results from the production cell are compared to those from the control cell to determine the effect of the interviewer variable. Results from the three research cells can be used to gauge the effects of the different diary formats. Assuming no interactions, these separate estimates can be added to arrive at the total effects of conditions in each of the experimental diary cells when compared to the production cell. That is,

$$\mu_{RA} - \mu_P = (\mu_{RA} - \mu_{RC}) + (\mu_{RC} - \mu_P) \qquad (2)$$

$$\mu_{RB} - \mu_P = (\mu_{RB} - \mu_{RC}) + (\mu_{RC} - \mu_P) \qquad (3)$$

Data from the experiment can be used in more complicated analyses than that described in (1) in order to examine the complete survey process pictured in Figure 1. Of particular interest will be the effects of the different diary forms on the attitude/behavior typology.

APPENDIX



1. Did the respondent seem eager or reluctant about keeping the Diary?

1 ☐ Eager
2 ☐ Reluctant
3 ☐ Don't know

2a. Do you think the respondent made a conscientious effort to complete the Diary every day?

1 ☐ Yes
2 ☐ No
3 ☐ Don't know – *Go to item 3a*

b. What gave you this impression?

3a. Did you contact the consumer unit at any time between the 1st week placement and pickup?

1 ☐ Yes
2 ☐ No – *Go to item 4a*

b. How was the contact made?

1 ☐ By personal visit – WHEN ______
2 ☐ By telephone – WHEN ______

c. Was the CU having problems completing the Diary?

1 ☐ Yes – *Specify*

2 ☐ No

4a. Was any portion of the week 2 Diary completed by recall at the time of pickup?

1 ☐ Entire Diary by recall
2 ☐ Part of the Diary by recall
3 ☐ None completed by recall – *STOP*

b. Was the respondent able to recall the day each expenditure occurred?

1 ☐ Always – *STOP*
2 ☐ Sometimes
3 ☐ Never

c. Where were entries obtained by recall recorded?

1 ☐ First Diary day
2 ☐ Second Diary day
3 ☐ Third Diary day
4 ☐ Fourth Diary day
5 ☐ Fifth Diary day
6 ☐ Sixth Diary day
7 ☐ Seventh Diary day
8 ☐ Additional page

5a. INTERVIEWER CHECK ITEM

1 ☐ Diary completed by total recall by interviewer
Complete only items 7a and 12
2 ☐ Diary completed by respondent (including partial recall)
Complete items 5b and 6 - 12 as appropriate

b. Is this a one person CU?

1 ☐ Yes – *Go to item 7a*
2 ☐ No

6a. **Who was responsible for recording expenditures for this consumer unit (CU)?** *Enter line number(s) and name(s) of each person(s) mentioned*

ASK IF APPROPRIATE, OTHERWISE GO TO ITEM 7a

b. **Besides** *(Person(s) in 6a)*, **were expenditures of other persons in this CU entered in the Diary?**

1 ☐ Yes
2 ☐ No } *Go to item 7a*
3 ☐ Don't know } *Go to item 7a*

c. **How frequently did other CU members report their expenditures to** *(Person(s) in 6a)? Read all categories and mark (X) only one*

1 ☐ **Daily**
2 ☐ **Every 2 to 3 days**
3 ☐ **At the end of the week**
4 ☐ **Never**

7a. **Were the expenditures recorded for the past two weeks about what this CU usually spends in a 2 week period?**

1 ☐ Yes – *Go to item 8*
2 ☐ No
3 ☐ Don't know – *Go to item 8*

b. **Were the expenditures for these 2 weeks higher or lower than usual?**

1 ☐ Higher – *PROBE – Specify any specific reason*
2 ☐ Lower

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8. **When were entries usually recorded on the Diary?** *Read categories and mark (X) only one*

1 **At the end of each day**
2 **At the end of each week** } *Go to item 9c*
3 **Every few days** }
4 **Immediately after an expenditure occurred**
5 **Other** – Specify ____________

9a. **Was it ever necessary to make entries in the Diary for expenditures made earlier during the week?**

1 Yes
2 No } *Go to item 10*
3 Don't know }

b. **Which of the following reasons explain why the Diary was not completed on a daily basis?** *Mark (X) all that apply*

1 Forgot to record expenditures for one or more day(s)
2 Was too busy to record expenditures on the Diary
3 Misplaced the Diary
4 Other – Specify ____________

c. **Were the expenditures remembered later in the week recorded –**

1 **On the page for the day the expenditure occurred?**
2 **On the page for the day the expenditure was remembered?**
3 **On another page?**
4 Don't know

---

10. **Were the instructions and examples contained on the Diary form helpful?**

1 Yes
2 No
3 Don't know

---

11. **Which of the following describe your feeling about keeping the Diary?** *Read all categories and mark (X) all that apply*

1 **Diary size was awkward**
2 **Keeping the Diary took too much time and effort**
3 **Keeping the Diary was enjoyable**
4 **Keeping the Diary was beneficial for my CU**
5 **Keeping the Diary was boring**
6 **Interest in keeping the Diary declined**
7 **It was difficult to obtain expenditures from other CU members**
8 **Not enough lines on the Diary form to record expenditures**
9 Other – Specify

10 No opinion

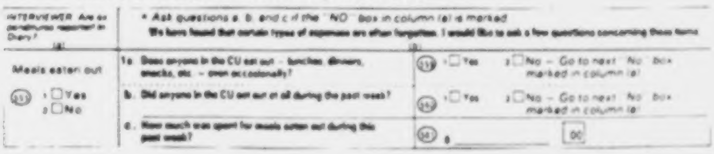
---

12. **Would you like to make any comments about the Diary or suggestions for improving the way we collect the data?**

1 Yes – Comments

2 No

Example of a follow-up question currently in use:



INTERVIEWER: Are expenditures reported in Diary? (a)

* Ask questions a, b, and c if the "NO" box in column (a) is marked.
We have found that certain types of expenses are often forgotten. I would like to ask a few questions concerning these items. (b)

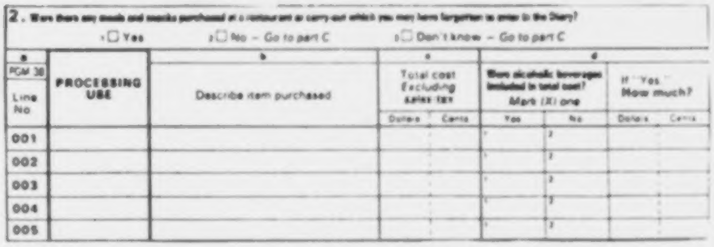
Meals eaten out ⑤⑤ 1 ☐ Yes 2 ☐ No

1a. Does anyone in the CU eat out – lunches, dinners, snacks, etc. – even occasionally? — 1 ☐ Yes 2 ☐ No – Go to next "No" box marked in column (a)

b. Did anyone in the CU eat out at all during the past week? — 1 ☐ Yes 2 ☐ No – Go to next "No" box marked in column (a)

c. How much was spent for meals eaten out during the past week? — $ ________ .00

Part from the new recall section:

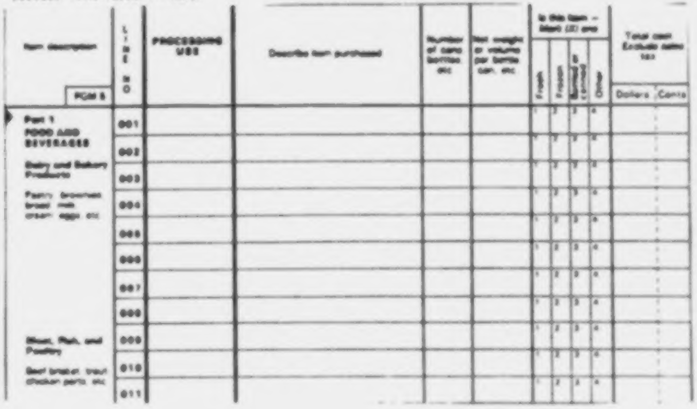


2. Were there any meals and snacks purchased at a restaurant or carry-out which you may have forgotten to enter in the Diary?

1 ☐ Yes 2 ☐ No – Go to part C 3 ☐ Don't know – Go to part C

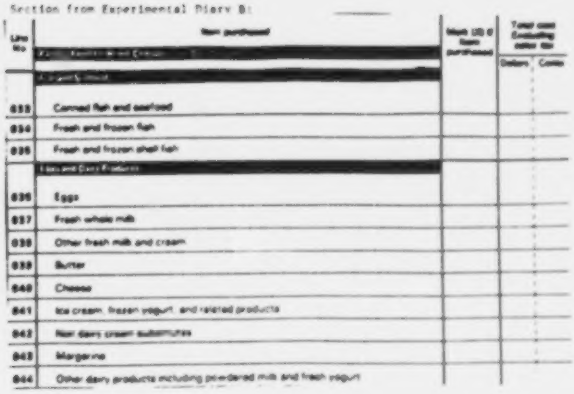
a FGM 30 Line No	PROCESSING USE	b Describe item purchased	c Total cost Excluding sales tax		d Were alcoholic beverages included in total cost? Mark (X) one		If "Yes," How much?	
			Dollars	Cents	Yes	No	Dollars	Cents
001					1	2		
002					1	2		
003					1	2		
004					1	2		
005					1	2		

Section from Current Diary:



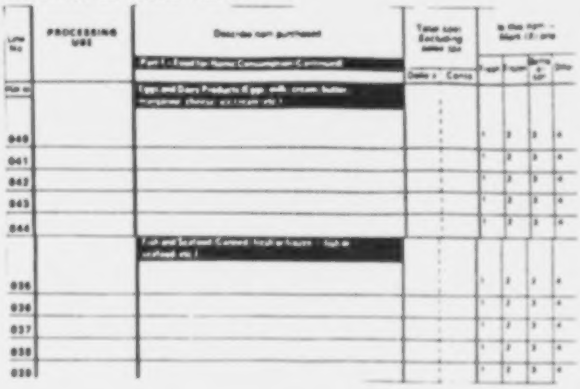
Item description FGM 6	Line No	PROCESSING USE	Describe item purchased	Number of cans, bottles, etc.	Net weight or volume per bottle, can, etc.	Is this item – Mark (X) one				Total cost Exclude sales tax	
						Fresh	Frozen	Bottled or canned	Other	Dollars	Cents
Part 1 FOOD AND BEVERAGES	001					1	2	3	4		
	002					1	2	3	4		
Dairy and Bakery Products	003					1	2	3	4		
Pastry, brownies, bread, milk, cream, eggs, etc.	004					1	2	3	4		
	005					1	2	3	4		
	006					1	2	3	4		
	007					1	2	3	4		
	008					1	2	3	4		
Meat, Fish, and Poultry	009					1	2	3	4		
Beef brisket, trout, chicken parts, etc.	010					1	2	3	4		
	011					1	2	3	4		

Section from Experimental Diary B:



Line No	Item purchased	Mark (X) if item purchased	Total cost Excluding sales tax	
			Dollars	Cents
	Part 1 – Food for Home Consumption			
	Fish and Seafood			
033	Canned fish and seafood			
034	Fresh and frozen fish			
035	Fresh and frozen shell fish			
	Eggs and Dairy Products			
036	Eggs			
037	Fresh whole milk			
038	Other fresh milk and cream			
039	Butter			
040	Cheese			
041	Ice cream, frozen yogurt, and related products			
042	Non dairy cream substitutes			
043	Margarine			
044	Other dairy products including powdered milk and fresh yogurt			

Section from Experimental Diary A:



Line No	PROCESSING USE	Describe item purchased	Total cost Excluding sales tax		Is this item – Mark (X) one			
		Part 1 – Food for Home Consumption (Continued)	Dollars	Cents	Fresh	Frozen	Bottled or can	Other
		Eggs and Dairy Products (Eggs, milk, cream, butter, margarine, cheese, ice cream, etc.)						
040					1	2	3	4
041					1	2	3	4
042					1	2	3	4
043					1	2	3	4
044					1	2	3	4
		Fish and Seafood (Canned, fresh or frozen fish or seafood, etc.)						
035					1	2	3	4
036					1	2	3	4
037					1	2	3	4
038					1	2	3	4
039					1	2	3	4

REFERENCES

1. Jacobs, C.A. "Diary Reporting Levels-1972/73 and 1980/81." BLS memorandum to E.Jacobs, December 16, 1983.

2. Pearl, R.B. "Revaluation of the 1972-73 U.S. Consumer Expenditure Survey." Tech. Paper No. 46, U.S. Department of Commerce, Bureau of the Census, July, 1979.

3. Sudman, S. and Ferber, R. "Experiments in Obtaining Consumer Expenditures by Diary Methods." Journal of the American Statistical Association 66: 725-735.

4. Tucker, C. "Decision-Making in Diary Research Planned for 1985." BLS memorandum to C.A.Jacobs, March 20, 1984.

5. ________. "Identifying the Measurement Error in a Consumer Unit's Report of Expenditures." Paper presented at the annual meeting of the American Statistical Association, Las Vegas, August, 1985.

6. U.S. Department of Labor. Consumer Expenditure Survey: Diary Survey, 1980-81. Bull. 2173, Bureau of Labor Statistics, September, 1983.

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WIFE'S EDUCATION AND FAMILY FOOD EXPENDITURES

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ABSTRACT

Data from the 1980-81 Consumer Expenditure Survey were used to determine whether wife's education has an influence on family food expenditures once the effects of income and other factors are taken into account. The double-log function was used in the multiple regression analysis of 22 food expenditure categories at four different levels of aggregation. Income and education elasticities were also compared. All income elasticities were positive and all but three were statistically significant. Ten of the 22 education elasticities were statistically significant; eight of these coefficients were positive while two were negative.

Considerable attention has been focused on the factors influencing food consumption patterns. Although economists have often emphasized consumption-income relationships, the influence of other sociodemographic variables such as age, race, family size, employment status, urbanization and region have also been studied [2, 4, 9, 10]. Less consideration has been given to the relationship between wife's education and food expenditures. One exception is research by Abdel-Ghany and Schrimper [1] which used data from the 1965-66 USDA Food Consumption Survey. Even after controlling for the effects of income and other factors, wife's education was found to have a significant positive effect on 10 of the 22 expenditure categories studied. Additional research, however, is needed in order to ascertain whether the increased levels of education attained by women in recent years has changed the composition of family food expenditures.

The objectives of this study are: (1) to examine, after taking into account other factors determining family consumption behavior, the influence of wife's education on family food expenditures, and (2) to compare education and income elasticities for selected food expenditure categories. Findings from this research could assist in understanding possible changes in food consumption patterns resulting from future changes in the educational level of the general population.

RATIONALE

Despite the increase in the number of dual-earner families, wives still perform the majority of work in the household. Since food shopping, preparation and cleanup account for the greatest proportion of household production, it may be safe to assume that in most families the wife has the major influence on food consumption patterns.

One reason why a wife's education should influence food consumption patterns is that increased education may enhance her household production skills. The rationale is provided by Michael's neutrality model [8] which assumes that education increases efficiency in all nonmarket activities and that the influence of education is neutral (has the same effect on each activity). This greater efficiency increases a household's "real" income at any given level of money income, thus increasing a household's ability to purchase goods and services. Michael hypothesized that the increase in real income would be associated with proportionately higher outlays on commodities, such as food away from home and other services which are considered luxuries, but proportionately lower outlays on necessities, such as food at home.

To empirically test his model Michael [8] analyzed the spending patterns of all households participating in the 1960-61 Consumer Expenditure Survey (CES). Education of the household head was used to measure education. Food for home use and food away from home were the only dependent variables measuring food spending. Findings for these expenditure categories were consistent with Michael's model, since a negative education elasticity was found for food for home use, while a positive education elasticity was found for food away from home.

Other reasons have also been used to explain why a wife's education might influence family food consumption. One is that knowledge of nutrition and concern for health may vary with a wife's level of education, resulting in differing food consumption patterns. Another is that tastes or preferences associated with different levels of education could affect consumption patterns.

METHODOLOGY

The diary component of the 1980-81 Consumer Expenditure Survey (CES)[3] was the data base for this research. The specific data analyzed were from the 1981 survey year. The study sample consisted of urban husband-wife families with pretax incomes of $75,000 or less. Families not reporting information on income, wife's education and other sociodemographic characteristics of interest were deleted, resulting in a study sample of 4,299 families.

Multiple regression analysis was used to investigate the influence of wife's education and family income on food expenditures at four different levels of aggregation. The first level was expenditure on total food while the second consisted

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[1] Extension Consumer and Family Economics Specialist

[2] This research was partially supported by a grant from the Auburn University Research Grant-in-Aid Program.

[3] For a description of CES methodology see [11].

of spending on food at home and food away from home. Expenditures were also broken down into eight major food groups and 11 individual food products. These major food groups and individual food products will be discussed in more detail in the findings section.

Wife's education and family income were treated as continuous variables. Wife's education was the number of years of schooling completed, while family income was the total of 1980 pretax income of all family members 14 years old or over. Other independent variables included as control variables were: (1) wife's age, (2) wife's race, (3) number of hours worked by the wife in 1980, (4) family size, (5) region and (6) SMSA status. The double-log function was used in the multiple regression analysis of the 22 food expenditure categories.

Finding the most appropriate form of Engel curve has always been a problem in economics. The choice of consumption-income relation is influenced by both economic and statistical considerations. Ferber [3] found that the functional form used in the majority of studies was the double-log, essentially the same as that used by Ernst Engel. The main reason for the popularity of the double-log form is that it results in a constant income elasticity. It passes through the origin and has an upward rather than downward curvature when the elasticity is greater than one.[4]

FINDINGS

Income and education elasticities for the 22 expenditure categories analyzed are shown in Table 1. All income elasticities were positive and all, except those for poultry, eggs and fresh milk and cream, were statistically different from zero. As may be seen, income elasticity estimates indicate that among sample families demand for the food products studied was inelastic. In other words, a given percentage change in income led to a less than proportional change in expenditure, which is consistent with Engel's law.

Only 10 of the 22 education elasticities were statistically significant; eight of these coefficients were positive, while two were negative. Although wife's education had no influence on spending on food at home it was positively related to outlay on food away from home which accounted for 30 percent of total food spending.

Findings for the food groups show that wife's education had no influence on spending on grain products, sugars and sweets and fats and oils, but was positively related to spending on fruits. These findings are consistent with those of Abdel-Ghany and Schrimper [1]. Expenditure on dairy products and vegetables was not influenced by the level of wife's education. These findings are contrary to those of Abdel-Ghany and Schrimper who found that wife's education had a positive influence on these outlays. It is uncertain whether these differences are due to changes in the influence of wife's education between 1965 and 1966 and 1981 or differences in the research methodology used in each study.

Spending on meat, poultry, fish and eggs was not related to wife's education. Miscellaneous foods, which included frozen, canned and packaged meals, meats and other products, was positively influenced by wife's education. Since items in this category contain a preponderance of convenience foods, this finding may reflect a preference for built-in marketing services among more educated wives. For six of the 11 individual food products analyzed, education elasticities were found to be statistically different from zero. The positive elasticity for bakery products also indicates a preference among the more educated for commodities with built-in services. Wife's education had no effect on spending on beef, pork or poultry but was positively related to outlay on fish. As may be seen, wife's education was associated with lower expenditure on eggs and fresh milk and cream. These findings suggest that more highly educated wives may be attempting to lower the serum cholesteral levels of family members, thus reducing the chances of cardiovascular disease.

Wife's education increased outlay on both fresh and processed fruits but had no influence on either fresh or processed vegetables. The positive elasticity for fresh fruits could be interpreted as a concern for nutrition among more highly educated wives, but this argument is weakened by the fact that spending on fresh vegetables was not affected by education. The positive education elasticity for processed fruits, often considered less nutritious than fresh, further weakens this argument. Although the finding for processed fruits could reflect a preference for built-in service, the fact that this desire was not reflected in increased outlay on processed vegetables is curious. These findings could be attributed to a preference for fruit in all forms among families of more highly educated women.

CONCLUSIONS

Study findings show that wife's education had a significant influence on family food consumption even after the effects of income and other factors were taken into account. The reasons for these findings, however, are not clear-cut. The positive elasticities for food away from home, miscellaneous foods and bakery products could be explained by Michael's hypothesis in which, other factors being equal, increased education is expected to shift spending to services.

A concern for health among more highly educated wives could explain the positive elasticity for fish and negative elasticities for eggs and fresh milk and cream. The fact that wife's education was positively associated with outlay on fresh and processed fruits, but neither fresh nor processed vegetables, is more difficult to interpret on the basis of the previous two explanations. The most plausible reason appears to be a preference among the more highly educated for fruit in any form. It should be noted that the nature of the Consumer

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[4] For additional information see [5-7].

TABLE 1. Income and Education Elasticities of Food Expenditure Categories.

	Elasticities		
Categories	Income	Education	$\overline{X}$ Weekly Expenditure
Total Food	.25***	.19***	69.70
Food at Home	.15***	.06	48.82
Food Away from Home	.51***	.55***	20.88
Food Groups			
Grain Products	.09***	.05	6.32
Meat, Poultry, Fish, Eggs	.13***	-.01	14.12
Dairy Products	.10***	.06	6.57
Fruits	.10***	.27***	3.87
Vegetables	.12***	-.04	4.60
Sugars and Sweets	.06***	.08	1.86
Fats and Oils	.05***	.03	1.42
Miscellaneous Foods	.10***	.15**	4.76
Individual Products			
Bakery Products	.10***	.10*	4.25
Beef	.08**	.02	6.42
Pork	.08***	-.01	3.30
Poultry	.03	-.03	2.06
Fish	.10***	.10**	1.44
Eggs	.01	-.11***	.90
Fresh Milk and Cream	.01	-.15***	3.40
Fresh Fruits	.08***	.14***	2.17
Fresh Vegetables	.11***	-.07	2.24
Processed Fruits	.06***	.21***	1.70
Processed Vegetables	.07***	.04	1.36

*Significant at the .05 level.

**Significant at the .01 level.

***Significant at the .001 level.

Expenditure Survey data does not allow determination of how close to reality these explanations are.

Study findings differ somewhat from those of Abdel-Ghany and Schrimper [1]. It is uncertain whether this reflects changes in the relationship between wife's education and food consumption that have occurred in the 15 years separating the two studies or whether this is the result of methodological differences.

Consumer units participating in the 1980-81 CES Diary Survey were asked to record expenses for two consecutive one-week periods. Because of the random timing of many consumer purchases and the relatively short survey period, it is possible that the results may not have been typical of the long-run spending patterns of the families studied. While this problem is more acute for such infrequently purchased items as durable goods, it is possible that a consumer unit reporting no expenditure on a food item may have been depleting its stock of the item during the survey period.

At the present time there is no "ideal" data base which collects such weekly information over a longer time period, such as a year. For this reason, using data from the 1982-83 CES to clarify the influence of wife's education and other factors on family food consumption should not be precluded.

REFERENCES

1. Abdel-Ghany, Mohamed and Schrimper, Ronald A. "Food Consumption Expenditures and Education of the Homemaker," Home Economics Research Journal, 6, June 1978, pp. 283-292.

2. Crockett, Jean. "Demand Relationships for Food," Consumption and Saving, Volume 1. Edited by J. Crockett and R. Jones. Philadelphia: University of Pennsylvania, 1960, pp. 293-310.

3. Ferber, Robert. "Research on Household Behavior," Surveys of Economic Theory, Volume 3. New York: St. Martin's Press, 1966.

4. Foster, Ann C. "Wife's Employment and Food Expenditures," Conference Proceedings, Southeastern Regional Association of Family Economics - Home Management, 14th Annual Conference, February 14-16, 1985, pp. 89-95.

5. Hu, Teh-wei. Econometrics: An Introductory Analysis. Baltimore: University Park Press, 1973.

6. Madala, G. S. Econometrics. New York: McGraw-Hill, 1977.

7. Mayes, David G. Applications of Econometrics. Englewood Cliffs, New Jersey: Prentice-Hall International, 1981.

8. Michael, Robert T. The Effect of Education on Efficiency in Consumption, National Bureau of Economic Research Occasional Paper No. 116. New York: Columbia University Press, 1972.

9. Salathe, Larry E. Household Expenditure Patterns in the United States, U.S. Department of Agriculture, Economics Statistics and Cooperative Service, Technical Bulletin No. 1603. Washington, D.C.: U.S. Government Printing Office, April 1979.

10. Salathe, Larry E. and Buse, Reuben C. Food Consumption Patterns in the United States, U.S. Department of Agriculture, Economics Statistics and Cooperative Service, Technical Bulletin No. 1587. Washington, D.C.: U.S. Government Printing Office, January 1979.

11. U.S. Department of Labor, Bureau of Labor Statistics. Consumer Expenditure Survey: Diary Survey, 1980-81, Bulletin 2173. Washington, D.C.: U.S. Government Printing Office, September 1983.

INTERACTION EFFECTS OF DEMOGRAPHIC CHARACTERISTICS ON FOOD AWAY FROM HOME SPENDING

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ABSTRACT

Regression models of food away from home spending on demographic variables were tested with U.S. BLS Consumer Expenditure data for married couple households with husbands employed fulltime. Use of interaction variables demonstrated patterns not apparent in a regression without interaction variables. The number of weeks worked per year by the wife had a significant effect on food away from home spending for white and other nonblack households, but not for black households.

INTRODUCTION

An important trend in food consumption during the past 30 years has been the increase in consumption of food away from home (FAFH). U.S. Department of Commerce [22] data on aggregate expenditures on food away from home show an increase in food away from home as a percentage of total food expenditures between 1955 and 1985. When both are measured in current dollars, FAFH increased from 18.8 to 29.6 percent of total food expenditures. When both are measured in constant dollars, the increase was only from 22.3 to 28.3 percent. Perhaps the major factor contributing to the change in the consumption of food away from home is the effect of demographic shifts that have taken place in recent years. The demographic shifts that have contributed to the increase in the consumption of FAFH have been changes in household composition and size, and the increase in the labor force participation of women [12].

The labor force participation rate of married women with spouses present increased from 28.5 percent in 1955 [23] to 53.8 percent in 1985 [24]. The increase during that time period was steady, with an increase in the rate every year. Though these increasing rates are often cited as one of the major factors contributing to the increase in the consumption of FAFH, many cross-sectional studies have not found wife's employment status to be positively related to expenditures for FAFH [6;11;17]. The objective of this paper is to evaluate the usefulness of using interaction terms from a set of demographic and socioeconomic variables in order to better understand patterns of food away from home spending.

FACTORS RELATED TO EATING OUT

Previous Research

Household Composition. Household size decreased from 3.6 in 1955 to 2.7 in 1983 [21]. Prochaska and Schrimper [15] found that the presence of preschool children in the household tended to decrease the number of meals eaten away from home. Family size may have more impact on food at home expenditures than on FAFH expenditures since a larger household may experience a greater income constraint and may only have one adult in the labor force [19].

Wife's Labor Force Participation. Another major factor influencing the increase in the demand for FAFH is the increase in the number of two-earner households [18]. As more and more women enter the labor force, production activities within the home are changing. The major shift in household production may occur in meal preparation, so that households with an employed wife may eat out more often [12]. A result of the increase in the number of two-earner households is not only a changing lifestyle, but also a higher income[12].

Foster, Abdel-Ghany, and Ferguson [7] found that wife's employment did not have a significant influence on expenditures. Foster [6] found that working wife households spent less on FAFH than non-working wife households. A study of husband-wife two child families in 11 states [8] found that the wife's employment status did not have an independent effect on expenditures for meals away from home.These findings are in contrast to those of Lazear and Michael [13] who reported that two-earner households spent 55 percent more than one-earner households on FAFH. In a study of Wisconsin husband-wife families with two children, Ortiz, et al. [14] found that fulltime employment of the wife was significantly related to higher proportions of meals purchased away from home. Bellante and Foster [3] found that the wife's weeks worked and fulltime employment status of the wife were positively related to FAFH.

Income. Most cross-sectional studies cite family income as having the greatest impact on the consumption of food away from home. Kinsey [11] concluded that since income elasticities for FAFH were often less than 1.0, FAFH was not a luxury good for all households. Salathe [16] estimated the income elasticity for FAFH of .843 and a household size elasticity of -.057 indicating that larger households spend less on FAFH than small families at the same income level.

Economic Models

Traditional Demand Theory. The simplest economic model for eating out expenditures is considering eating out as a normal good, possibly as a luxury. The economic definition of a luxury is a good with an income elasticity greater than one. If all types of households share a strong preference for eating out versus preparing food at home, income

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might be the most important variable in accounting for variations in food away from home expenditure. The price of FAFH and its substitute, food at home, would also influence the demand for FAFH. If these prices vary by location, location variables such as region and city size may be related to the demand for FAFH.

Household Production Theory. Becker [2] suggested that household spending for goods and services in the marketplace should be considered in the context of a household production model analogous to the economic model of the profit-maximizing firm. Based on this model, the price of the time of household members would be a crucial variable in explaining food away from home spending, as the price of the substitute commodity, food at home, includes not only the market price of groceries, but also the time of the household members in preparing the food, cleaning up, etc. The price of groceries may vary little in a cross-sectional sample, but the opportunity cost of the time of family members may vary substantially. In addition, there are substantial economies of scale in producing food at home, but only limited economies of scale in purchasing food away from home. Therefore, the demand for food away from home should be lower for large families than for small families, all other things equal. The household production model also suggests an additional reason for an impact of location variables, as the full cost of FAFH includes travel time, so the full cost of food away from home may be higher in rural areas.

The value of the wife's time may vary with her employment status. Having a paid job may be related to higher food away from home expenditures not only because of higher family income, but also because of the higher cost of food at home due to the higher opportunity cost of the wife's time. Constructing a model of this is difficult, partly because of the transitory nature of the labor force participation of some wives. The impact of the wife's employment on food away from home spending may depend on family size, the wife's age, other family income, and other factors. To simplify the model, rather than using components of family income, or constructing a complex structural model, total current consumption is used as a proxy variable for permanent income in this paper [5;10].

METHODS

The Sample

The sample used in this study was taken from the 1973 interview component of the 1972-73 Consumer Expenditure Survey. This survey is the most recent and most comprehensive cross-sectional data available which provides annual household expenditure and income information classified according to socioeconomic and demographic characteristics [4].

For this study, only husband-wife households where the husband was under age 65 and was employed fulltime were included in the analysis. These households were chosen in order to control other factors so as to make for a clearer interpretation of the effect of wife's employment status on household expenditures for food away from home.

The Dependent Variable

Annual food away from home expenditures reported for each household was used as the dependent variable. Only three percent of the sample reported zero expenditures, so that there should be little bias with ordinary least squares regression [9].

The Independent Variables

Socioeconomic and demographic variables included in this study were age, education, and employment status of the wife, race, annual total current consumption of the family, region of the United States, and city size. To allow for possible nonlinear effects, quadratic terms were included for consumption, age, and family size. Race was coded as zero for black, and one for white or other nonblack. Education, region, and city size were each coded as dummy variables. The employment status of the wife was computed as full time equivalent weeks worked per year by the wife. The Bureau of Labor Statistics coded the wife's employment status as not working, part-time, and full-time. This variable was coded as zero, 0.5, or one, and multiplied by the reported number of weeks worked per year to yield the number of full-time equivalent weeks worked per year.

The Models

Three models were tested in this study. The first model was a "bivariate" regression model, with groups of related variables entered separately in eight regressions:

1. Total consumption and sonsumption squared;
2. Wife's employment status (full time equivalent weeks worked per year);
3. Family size and size squared;
4. Age of wife and age squared;
5. Race;
6. Region of the United States;
7. City size;
8. Wife's education.

The second and third models were stepwise regressions. The second model used all the socioeconomic and demographic characteristics used in the bivariate model. This model was used to ascertain the effects of all the variables on FAFH expenditures. The third model included all the variables in the second model, as well as the interactions of the following sets of variables: 1 with 2-8; 2 with 3-8, 3 with 4,5; and 4 with 5.

It is hypothesized in the present study that the use of interaction terms may help to ascertain the relationship between the employment status of the wife and FAFH expenditures for different types of households, as well as to better explain the relationship between the socioeconomic and demographic characteristics, and FAFH expenditures.

RESULTS

Descriptive Statistics

Means and standard deviations of the variables are shown in Table 1. Mean total current consumption was \$10,869, with 90 percent of the households having levels between \$4,500 and \$20,350. Mean food away from home spending was \$532, with 90 percent of the households having levels between \$22 and \$1,468. Mean food away from home consumption as a percent of mean total consumption was 4.9 percent. The mean level of full time equivalent weeks worked by the wife was 19 weeks.

Table 1. Means and Standard Deviations of Variables: 1973 U.S. Bureau of Labor Statistics Interview Survey, Married Couples With Husband Under Age 65 and Employed Full-Time (N=5,069)

Variable	Mean	Standard Deviation
Food Away From Home	532.185	519.233
Total Consumption	10,868.835	5,366.710
Wife's Weeks Worked	18.928	21.459
Family Size	3.115	1.674
Age of Wife	38.758	11.829
Race Not Black	0.926	0.261
Region (base=South, proportion= 0.295)		
Northeast	0.214	0.410
North Central	0.287	0.453
West	0.204	0.403
City Size (base=rural, proportion = 0.170)		
Cen.City,SMSA of million+ (C1)	0.141	0.348
Outside C.C.,SMSA million+(C2)	0.279	0.449
Cen.City,SMSA of 400K-999K(C3)	0.068	0.252
Outside C.C.,400K-999K SMSA(C4)	0.085	0.280
Cen.City,SMSA of 50K-399K (C5)	0.067	0.250
Outside C.C.,50K-399K SMSA(C6)	0.065	0.247
Urban but outside SMSA (C7)	0.125	0.330
Wife's Education (base=D.K./no educ.,proportion = 0.022)		
1-8 years (E1)	0.086	0.280
9-11 years (E2)	0.187	0.390
H.S. grad (E3)	0.452	0.498
13-15 years (E4)	0.130	0.344
B.S. or more(E5)	0.115	0.319

Regressions

The Models. Food away from home consumption was regressed on the independent variables in three ways. In Model I, food away from home was regressed on each set of independent variables separately (Table 2). For instance, the regression of food away from home on total consumption and total consumption squared was:

$FAFH = 0.065\ C - 4.55E\text{-}7\ C^2 - 109.550$ (adj. $R^2 = 0.268$), where FAFH = food away from home consumption, and C = total current consumption.

(The intercept terms and the adjusted R^2s are not shown in Table 2). The largest adjusted R squared for the other Model I regressions was 0.026 for wife's education. The Models II and III regressions are described above and in Table 2.

Total Consumption. The effect of total consumption on food away from home consumption for each of the three models was roughly linear. For total consumption levels representing 90 percent of the sample, the predicted values for the three models were very close. For Model I, the marginal propensity to consume food away from home at a level of total consumption of zero is 0.065 -- for every extra dollar of total consumption, 6.5 cents is spent on food away from home. At the mean value of total consumption, the marginal propensity to consume (MPC) food away from home is 0.055, and the "income" elasticity is 1.12 -- a one percent increase in total consumption is associated with a 1.12 percent increase in food away from home consumption. At the 95th percentile level of total consumption, the MPC for FAFH is 0.046.

Wife's Employment. In Model I, each extra full time equivalent week worked by the wife was associated with an extra \$3.21 spent per year on food away from home. In Model II, each extra week was associated with \$2.06 spent per year on food away from home. In Model III, each week was associated with an extra \$2.18 for whites and other nonblacks, but with no increase for blacks. Figure 1 shows the relationship between wife's weeks worked and FAFH, with other variables held at mean values for Models II and III.

Family Size. Because of the high correlation between family size and family size squared, only the latter entered in the regression in Model I. Although the quadratic term for family size is only significant at the 0.08 level, the predicted effect of increasing family size from two to nine is almost a 60 dollar increase. In Model II, the linear term for family size is significantly negative, so that holding total consumption constant, there is a substantial drop in predicted food away from home consumption as family size increases. Figure 2 shows the relationship between family size and FAFH, with other variables held at mean values for Models II and III. Based on Model II, at the mean values of the other independent variables, the following are the predicted food away from home (FAFH) total and per capita spending for family sizes from two to nine:

Family Size	Total FAFH	Per Capita FAFH
2	\$580	\$290
3	560	187
4	541	135
5	522	104
6	502	84
7	483	69
8	463	58
9	444	49

Part of the decrease in per capita FAFH with increasing family size may be accounted for by the need for the family to pay for other consumption, as total consumption is held constant in the calculations above. Part of the pattern may also be explained by the greater number of young children in larger families. However, part of the pattern may be explained by the relative time cost of food at home being smaller for larger families.

Age of Wife. In Model I, the age of the wife squared had a significant effect on food away from home consumption. Predicted spending for a household with a 60 year old wife is $78 higher than for a 20 year old wife. The age of the wife did not enter into the Model II or Model III regression.

Race. Based on the Model I regression on race, black households spent $187 less than white and other nonblack households. The race coefficient in Model II was only $118, probably because total consumption was included in the multiple regression. In Model III, the effect of race was more complex, with the difference between blacks and whites greater for households with wives employed full time all year (Figure 3). The difference in FAFH also increased as total consumption increased.

Region. In Model I, there were no significant differences between any regions, with the greatest difference being a $32 higher level of food away from home spending in the West compared to Northeast states. In Model II, however, households in the South had significantly higher levels of food away from home spending (controlling for total consumption, etc.) than households in the other three regions. The largest difference was between the South and the West, with households in the West having predicted spending $94 lower than similar households in the South. In Model III, the difference between the South and other regions increased as total consumption increased.

City size. In Model I, the highest predicted spending is for households living in the suburban ring of an SMSA with a million or more population, with a level of food away from home spending $208 higher than for rural households. Households living in larger metropolitan areas had predicted spending levels significantly higher than rural households, but households living in the central city of an SMSA of 50,000 to 399,999 population, and households living in a non-SMSA urban area did not have predicted spending levels significantly different from rural areas. In Model II, controlling for total consumption, etc. reduced the differences among areas, although households in the largest size SMSAs still had significantly higher food away from home spending. The pattern is much more complex in Model III, with predicted spending higest for the largest size SMSAs, but spending for small cities lower than for rural areas and medium size cities. Figure 4 shows the relationship between FAFH and total consumption for different city sizes, based on Model III.

Wife's education. The basic relationship between food away from home spending and the wife's education in Model I is the higher the wife's education, the higher the spending. However, in Model II, households with a wife with a high school diploma had predicted spending $35 higher than similar households with wives of higher or lower educational levels. In Model III, the wife's education had a small effect, but the pattern is more complex and not completely consistent.

DISCUSSION

Total consumption and total consumption squared accounted for 92 percent of the explained variance in food away from home spending in Model II. In all three models, the amount spent for FAFH increased as total consumption increased. None of the other variables in either original form or as interaction terms accounted for a large variation in FAFH. As real income and real total consumption increase in the future, food away from home spending should continue to increase.

As the number of weeks a wife worked during a year increased, FAFH expenditures also increased. This suggests that purchased meals are substituted for meals prepared at home as the value of time of the wife increases as she increases her participation in the labor force. As the labor force participation of married women continues to increase, further increases in food away from home spending should take place.

The negative relationship between family size and FAFH found in Models II and III suggests that as family size continues to decrease in the future, food away from home spending should increase.

The lack of relationships between wife's weeks worked and FAFH for black households is somewhat puzzling. Perhaps a greater incidence of extended or other nonnuclear household types may be related to the differences in patterns between whites and blacks. A permanent income effect, or the impact of housing, or other discrimination, may be forcing black families to be "thriftier" than similar white families. Middle and upper income black and white families may become more similar in the future.

The use of interaction terms in the regression model did little to increase the proportion of variance explained (.298) over the value for the regression without the interaction terms (.291). However, the use of interaction terms in the model shows the complexity of the factors influencing the consumption of FAFH. For instance, the positive relationship between wife's weeks worked and FAFH (Models I and II) is shown in Model III to exist only for nonblack families. Given the unexplained variation in expenditures for FAFH with the use of the models in this study, as well as other models used in previous studies, further research is needed to determine what other factors may influence the consumption of FAFH.

IMPLICATIONS

Based on plausible trends for many of the independent variables, substantial future growth in food away from home spending can be expected. This may have implications for nutrition education programs and other types of consumer education. For instance, many consumer-related cooperative extension programs are related to food preparation in the home. In the future, perhaps there should be a shift of emphasis toward food away from home.

Table 2. Regressions with Food Away From Home as Dependent Variable. Model I: "Bivariate" Regressions (only one independent variable or one group of related variables entered); Model II: Stepwise Regression without interaction terms; Model III: Stepwise Regression with interaction terms.

	Model I		Model II		Model III	
Variable	Reg. Coeff.	Stand. Coeff.	Reg. Coeff.	Stand. Coeff.	Reg. Coeff.	Stand. Coeff.
Total Consumption	0.065	0.674***	0.065	0.670***	0.053	0.549***
Consumption Squared	-4.55E-7	-0.196***	-4.30E-7	-0.185***	----	----
Wife's Weeks Worked (FTE)	3.208	0.133***	2.055	0.085***	----	----
Family Size	did not enter		-19.408	-0.063***	-18.497	-0.060***
Family Size Squared	0.741	0.025*	----	----	----	----
Age of Wife	did not enter		----	----	----	----
Age of Wife Squared	0.024	0.045***	----	----	----	----
Race Not Black	186.820	0.094***	118.382	0.060***	----	----
Region (base=South)						
Northeast	-20.490	-0.016	-93.644	-0.074***	----	----
North Central	-17.865	-0.016	-67.043	-0.058***	----	----
West	11.496	0.009	-93.333	-0.072***	----	----
City Size (base=rural)						
Cen.City,SMSA of million+ (C1)	135.214	0.091***	73.988	0.050***	55.729	0.037***
Outside C.C.,SMSA million+(C2)	208.856	0.180***	47.645	0.041***	----	----
Cen.City,SMSA of 400K-999K(C3)	107.645	0.052***	52.136	0.025**	----	----
Outside C.C.,400K-999KSMSA(C4)	130.360	0.070***	----	----	----	----
Cen.City,SMSA of 50K-399K (C5)	46.658	0.022	----	----	----	----
Outside C.C.,50K-399K SMSA(C6)	81.345	0.039**	----	----	----	----
Urban but outside SMSA (C7)	44.218	0.028	-35.260	-0.022*	----	----
Wife's Education (base=H.S. grad, no ed., or D.K.)						
1-8 years (E1)	-217.614	-0.117***	----	----	----	----
9-11 years (E2)	-81.780	-0.061***	----	----	----	----
H.S. grad (E3)	did not enter		34.800	0.033***	----	----
13-15 years (E4)	46.535	0.031**	----	----	----	----
B.S. or more(E5)	125.860	0.077***	----	----	----	----
Race X Wife's Weeks Worked					2.181	0.088***
Total Consumption Squared X C7					-2.54E-7	-0.044**
Total Consumption Squared X Northwest					-4.38E-7	-0.150***
Total Consumption Squared X West					-4.67E-7	-0.101***
Total Consumption Squared X E3					2.06E-7	0.046***
Total Consumption Squared X C5					-4.11E-7	-0.041***
Total Consumption X North Central					-0.005	-0.050***
Total Consumption Squared X E1					-4.26E-7	-0.031**
Total Consumption X Race					0.006	0.072**
Total Consumption X C2					0.003	0.033**
Constant			-163.844		-47.652	
Adjusted R Squared			0.291		0.298	

* Significant at .10 level
** Significant at .05 level
*** Significant at .01 level or better.

Stepwise regressions for Models II and III had p=.05 to enter; p=.10 to drop a variable, and minimum tolerance=.10.

FIGURE 1 PREDICTED ANNUAL FOOD AWAY FROM HOME SPENDING BY FULL TIME EQUIVALENT WEEKS WORKED BY WIFE: THREE MODELS

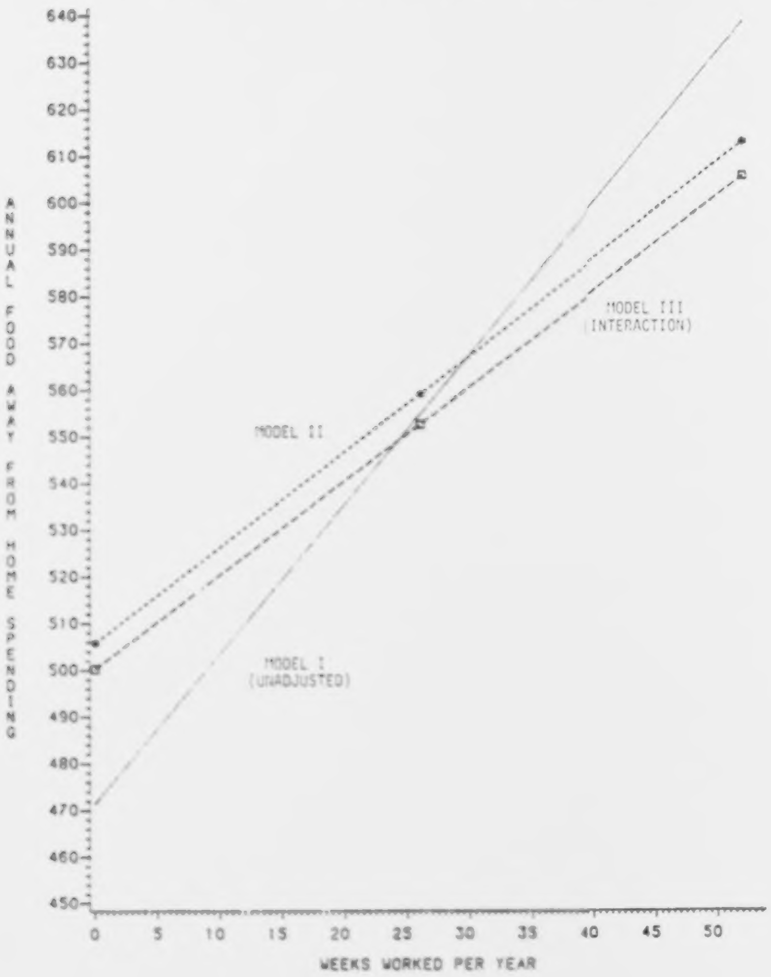


FIGURE 2 PREDICTED ANNUAL FOOD AWAY FROM HOME SPENDING BY FAMILY SIZE: THREE MODELS

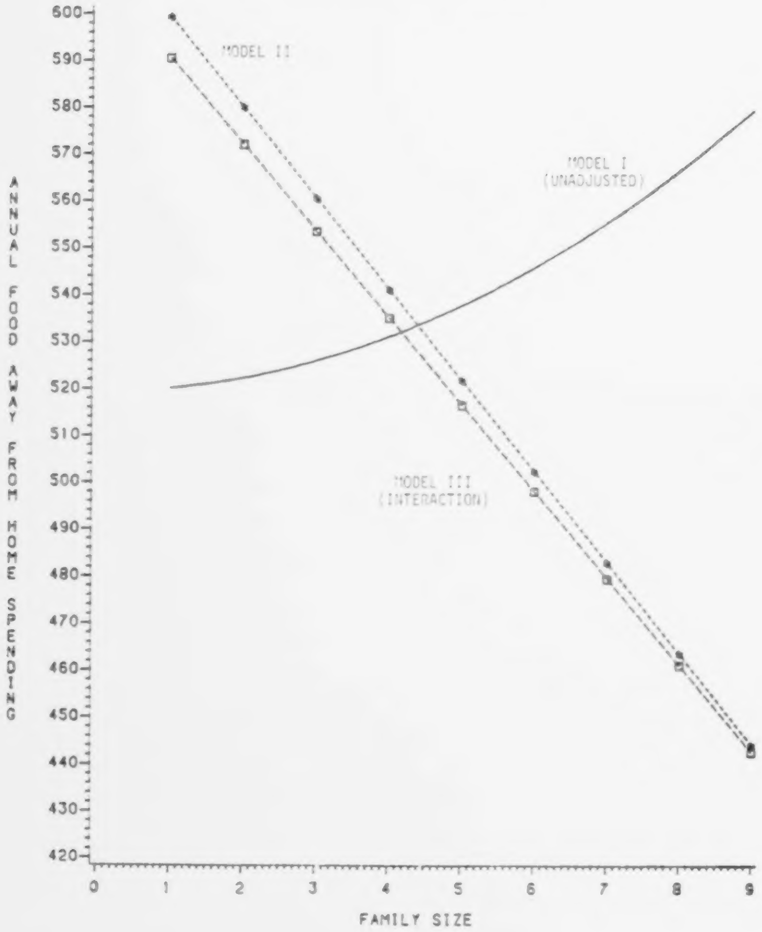


FIGURE 3 PREDICTED ANNUAL FOOD AWAY FROM HOME SPENDING BY FULL TIME EQUIVALENT WEEKS WORKED BY WIFE: INTERACTION MODEL FOR BLACKS AND WHITES

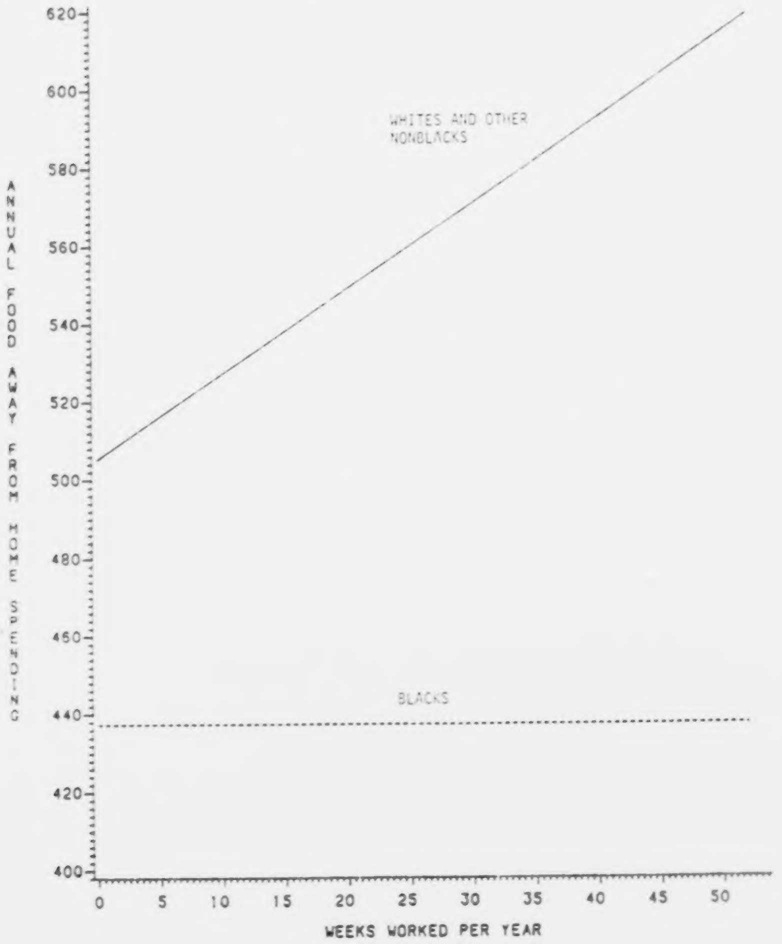
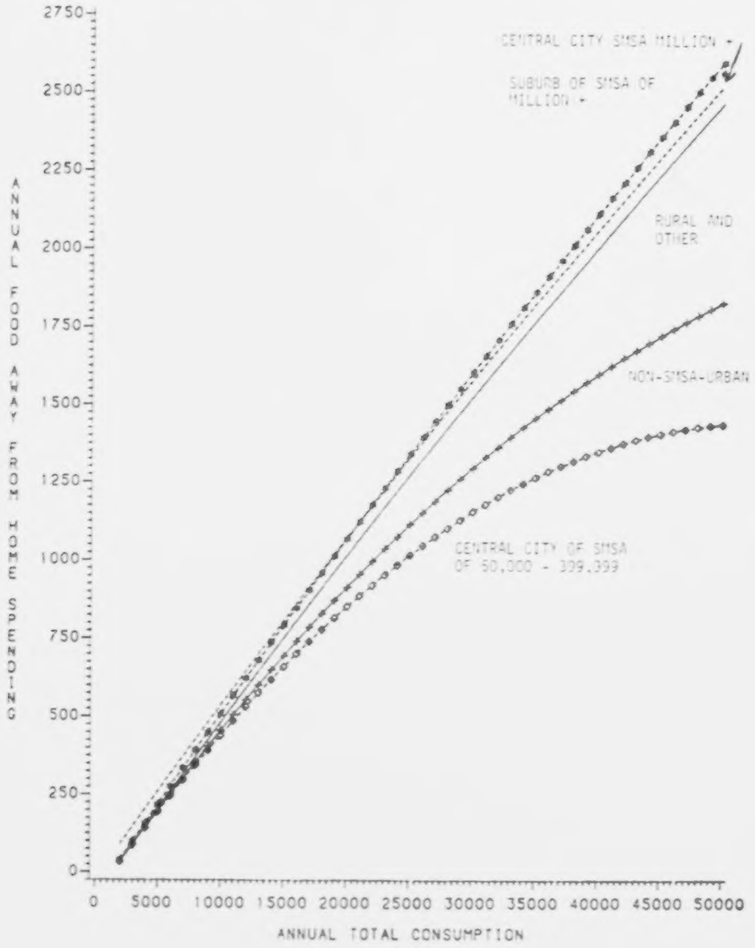


FIGURE 4 PREDICTED ANNUAL FOOD AWAY FROM HOME SPENDING BY TOTAL CONSUMPTION BY CITY SIZE: INTERACTION MODEL



REFERENCES

1. Abdel-Ghany, Mohamed and Ann C. Foster. "Impact of Income and Wife's Education on Family Consumption Expenditures." *Journal of Consumer Studies and Home Economics*, 6:21-28(1982).

2. Becker, Gary S. "A Theory of the Allocation of Time." *The Economic Journal*, LXXV:493-517(1965).

3. Bellante, Don and Ann C. Foster. "Working Wives and Expenditure on Services." *Journal of Consumer Research*, 11:700-707(1984).

4. Carlson, Michael D. "The 1972-73 Consumer Expenditure Survey." *Monthly Labor Review*, 97:16-23(December, 1974).

5. Derrick, Frederick W., Rachel Dardis, and Alane Lehfeld. "The Impact of Demographic Variables on Expenditures for Food Away from Home." *Journal of the Northeastern Agricultural Economics Council*, 11:1-11(1982).

6. Foster, Ann C. "Wife's Employment and Food Expenditures." In *Conference Proceedings, Southeastern Regional Association of Family Economics-Home Management*, 14th Annual Conference, 89-95(1985).

7. Foster, Ann C., Mohamed Abdel-Ghany, and Carl E. Ferguson. "Wife's Employment--Its Influence on Major Family Expenditures." *Journal of Consumer Studies and Home Economics*, 5:115-124(1981).

8. Goebel, Karen P. and Charles B. Hennon. "Mother's Time on Meal Preparation, Expenditures for Meals Away From Home, and Shared Meals: Effects of Mother's Employment and Age of Younger Child." *Home Economics Research Journal*, 12:177-188(1983).

9. Greene, William H. "On the Asymptotic Bias of the Ordinary Least Squares Estimator of the Tobit Model." *Econometrica*, 49(2)(1981).

10. Hassan, Z.A. "Household Expenditure Patterns in Canada." *Canadian Journal of Agricultural Economics*, 22(2):61-78(1974).

11. Kinsey, Jean. "Working Wives and the Marginal Propensity to Consume Food Away from Home." *American Journal of Agricultural Economics*, 10-19(February, 1983).

12. Lawless, Mark J. and Christopher W. Hart. "Forces That Shape Restaurant Demand." *Cornell Hotel and Restaurant Association Quarterly*, 7-17(November, 1983).

13. Lazear, Edward P. and Robert T. Michael. "Real Income Equivalence Among One-Earner and Two-Earner Families." *American Economic Review*, 70:203-208(1980).

14. Ortiz, Bonnie, Maurice MacDonald, Norleen Ackerman, and Karen Goebel. "The Effects of Homemaker's Employment on Meal Preparation Time, Meals at Home, and Meals Away From Home." *Home Economics Research Journal*, 9:200-206(1981).

15. Prochaska, Fred J. and R. A. Schrimper. "Opportunity Cost of Time and Other Socioeconomic Effects on Away From Home Food Consumption." *American Journal of Agricultural Economics*, 595-603(November, 1973).

16. Salathe, Larry E. *Household Expenditure Patterns in the United States*, Washington, D.C.: U. S. Department of Agriculture, Economics, Statistics and Cooperatives Service, Technical Bulletin No. 1603(1979).

17. Sexauer, Benjamin. "The Effect of Demographic Shifts and Changes in the Income Distribution on Food-Away-From-Home Expenditures." *American Journal of Agricultural Economics*, 61:1046-1062(1979).

18. Sexauer, Benjamin. "Major Changes Affecting Consumers and Consumption." *Proceedings of the ACCI Conference*, Kansas City, (1983).

19. Smallwood, David, James Blaylock, and James Zellner. "Factors Influencing Food Choice." *National Food Review*, 20-22, (Spring, 1981).

20. U.S. Bureau of the Census, *Historical Statistics of the United States, Colonial Times to 1970, Bicentennial Edition, Part 1*, Washington, D.C., (1975).

21. U.S. Bureau of the Census, *Statistical Abstract of the United States*, Washington, D.C., (1985).

22. U.S. Department of Commerce, unpublished data, (1986).

23. U.S. Department of Labor, Bureau of Labor Statistics. *Handbook of Labor Statistics*. Washington, D.C.: Government Printing Office, (1983).

24. U.S. Department of Labor, Bureau of Labor Statistics, unpublished data, (1986).

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FOOD VERSUS NUTRIENTS: PRODUCTIVITY DIFFERENCES IN FAMILY MEAL PRODUCTION

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ABSTRACT

This research investigated differences in the productivity of food and nutrient resources in meal preparation and consumption. Household production theory provided the theoretical framework. Two stage least squares was used to estimate household production functions for family meals. The results were theoretically sound, and have implications for the economic and nutritional well-being of households.

INTRODUCTION

Extensive food and nutrient consumption research has been done within the traditional consumer demand framework (2, 10, 13). Empirical research which utilizes a household production framework, however, has been limited (8, 11, 12). There are cases in which this latter framework may be most appropriate. Household production theory is particularly useful when examining productivity within the household, as well as the demand for market goods used in household production.

Besides the choice of a specific framework, another theoretical, as well as practical issue, which a researcher working in this area must also consider is whether to examine food or nutrients. There are instances when data limitations may determine which measurement is used. It is interesting to ask, "How will results, and consequently, research implications differ depending on the particular definition of food/nutrient resources used?"

The purpose of this research was to determine the quantity of a household's food (nutrient) resources that are transformed into family meals, and to examine the empirical applicability of household production theory to food and nutrient consumption. That is, are the empirical results obtained within a household production framework theoretically sound? Furthermore, this research examines the extent to which the results for food and nutrient resources differ.

There are a number of reasons for examining household food resource utilization within a household production framework. First, empirical evidence is needed to support or contradict the application of firm theory to households and, to date, the amount of empirical research has been limited. Second, how productively a household utilizes its food resources has implications for both its nutritional and economic well-being. Third, food loss occurs during harvest, storage, transportation, or processing, in the marketing system and in the household. Notably absent from analyses of the U. S. food production process is the extent to which waste occurs at the institutional and household level.

BACKGROUND

There are four basic approaches to researching food usage and waste: diary, archaeological, plate examination and inferential methods (1, 3, 7, 8). There are both similarities and differences between the past research on household food usage and this research. As with work done by Batcher and Johnson, et al. (3, 4, 8), this study is considered to be inferential in nature since no direct questions regarding food waste were asked in the data collection process. Also, all of the previous researchers, except for Batcher, used only one measure of food resources, either actual quantities of food or nutrients. This research will compare the results obtained using both. An economic framework provides the theoretical basis for this research, and in this sense most closely follows the work done by Johnson et al. in which a household production model was utilized. This research differs from Johnson's in that the sample is not limited to low income households, and there is a clearer specification of the theoretical models on which the empirical models are based.

THEORETICAL MODEL

Within the context of household production, the family is viewed as both a producing unit and as a consuming unit. Combining market goods with the time of family members, the household produces family meals and other commodities. The consumption of these commodities provides the household with some level of utility or satisfaction. In general, families attempt to maximize utility subject to technical, monetary, and time constraints. Such optimization on the part of households results in optimal demand functions for food (nutrient) and time inputs, as well as optimal demand functions for family meals and all other home produced commodities (10).

To address the question, "How much of a household's food (nutrient) resources are transformed into family meals?" a household production for family meals was defined:

$$(1)\ Z_1 = f(X_1, H_{w1}, H_{h1}; K)$$

where:

Z_1 = the quantity of family meals produced and consumed
X_1 = the quantity of market inputs used in family meal preparation
H_{w1} = the time input of the wife in meal preparation

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H_{hl} = the time input of the husband in meal preparation

K = environmental factors that production is conditioned upon (education and experience of the male and female, presence and ages of children, presence of a freezer)

Whether family meals and market inputs should be defined in terms of food or nutrients is a theoretical issue. Defining commodities in terms of nutrients implies that the household derives utility from the nutrients contained in family meals rather than from the family meals themselves. This approach is appropriate to use when one has a Lancasterian view of the world. Lancaster suggests that people derive utility from consumption of the characteristics of a good rather than the good itself (9). This research used both definitions (quantity of nutrients and quantity of food) so that a comparison can be made between the two.

DATA AND EMPIRICAL MODEL

The data used to empirically estimate the production functions for family meals and the nutrients contained in family meals was the 1977-78 Food Consumption Survey collected by the U. S. Department of Agriculture. This data set did not contain any information regarding the time inputs of family members into the production process. Also, for simplification, the environmental factors were not entered directly into the production functions. These omissions will have implications for the statistical properties of the coefficients on food and nutrient inputs.

A further note regarding the estimation of the production functions is that the input demand functions for time and food (nutrients) are dependent on the error term from the production functions. Thus, the independent variables in the production functions are correlated with the error term from the production functions resulting in simultaneous equations bias. Estimation of the production functions by ordinary least squares will give biased and inconsistent estimates of the parameters.

One way to overcome this problem is to use two stage least squares which will give consistent estimates for the parameters. This procedure requires substituting predicted values for the independent variable, food (nutrient) inputs, for the actual quantities (6). This breaks the simultaneity which then allows estimation of the production functions by ordinary least squares.

The predicted values for the inputs were obtained by estimating a demand equation for each input (see the Appendix for the results of these equations). Thus, the actual production function that was estimated was:

$$Z_1 = a + b_1\hat{X}_1 + e$$

where:

a = the intercept

Z_1 = the quantity of family meals produced and consumed

$\hat{X}_1$ = the predicted value of the market inputs used in meal preparation

e = an error term

A linear production function was estimated because it provides a direct estimate of the marginal product of food (nutrient) inputs. Based on economic theory, the marginal product estimates are hypothesized to be positive with a magnitude that lies between zero and one.

The variables in the production function for family meals, expressed in terms of food were measured as follows:

Z_1 = the average daily quantity (in grams) of food prepared and consumed by the household in Spring 1977.

X_1 = the average daily quantity (in grams) of food removed from household supplies in Spring 1977.

The variables in the production functions for family meals, expressed in terms of nutrients, were measured as follows:

Z_1 = the average daily quantity of nutrients (calories, protein and fat) contained in family meals prepared and consumed by household members in Spring 1977.

X_1 = the average daily quantity of nutrients (calories, protein and fat) contained in the food removed from household supplies in Spring 1977.

RESULTS

The results of the production functions are presented in Table 1. The estimated coefficient on food inputs (ESTFDIN) .65. This means that, ceteris paribus, and on average, a one unit change in the quantity of food inputs used in preparing family meals will result in a .65 increase in the quantity of family meals actually consumed by family members. This indicates that, at the margin, 35 percent of the food inputs are unaccounted for as being prepared and consumed once removed from household supplies.

There are three production functions (PF#2) that were estimated in terms of nutrients. The estimated coefficients are .26, .30 and .23 on calorie (ESTCALIN), protein (ESTPROIN) and fat (ESTFATIN) inputs, respectively. Each coefficient is statistically significant. These results indicate that, at the margin, up to 74 percent of the nutrients removed from household supplies are not accounted for as being prepared and consumed.

Based on these results, one might be tempted to conclude that a large portion of available resources are wasted. However, the amount of resources that are not transformed into family meals cannot necessarily be considered waste. This point can be further clarified by looking at the estimates of average productivity with respect to the inputs. The average product is simply the ratio of output to input. Based on the input and

TABLE 1. Marginal Product Estimates

Dependent Variable	Food	Calories	Protein	Fat
INTERCEPT	[illegible]			
	([illegible])			
[illegible]	0.65**			
	([illegible])			
	R^2=[illegible]			
INTERCEPT		[illegible]		
		([illegible])		
[illegible]		0.26*		
		([illegible])		
		R^2=[illegible]		
INTERCEPT			[illegible]	
			([illegible])	
[illegible]			0.30*	
			([illegible])	
			R^2=[illegible]	
INTERCEPT				[illegible]
				([illegible])
[illegible]				0.23*
				([illegible])
				R^2=[illegible]

* = significant at [illegible]   N = [illegible]

output values at the points of sample means, the average products of calories, protein and fat are equal to .68, .80 and .66, respectively. The average product of food inputs is equal to .49. Thus, for each kilocalorie used in producing family meals, an average of 32 percent of the available kilocalories are unaccounted for. For protein, the average number of grams unaccounted for as being produced and consumed is 20 percent, while for fat it is 34 percent. The average number of grams of food unaccounted for as being produced and consumed is 51 percent.

For nutrients, the marginal product is less than the average product. This indicates that the average product of a given nutrient falls as usage of that nutrient increases. Thus, the more nutrients that the family demands, the less productive each nutrient will be on average. For food, the marginal product is greater than the average product. This indicates that the average product is increasing as usage of food inputs increases.

In evaluating these results, factors that may have caused the estimated values to be inaccurate must be addressed. The coefficients, although statistically significant, may be biased due to the omission of other relevant factors from the production function. The direction of the bias is determined by the product of the sign of the omitted variable and the correlation between the omitted and included variable. The omitted variables are the time inputs of the husband and wife, and the environmental inputs.

The marginal product of time for each spouse, and the environmental inputs can be expected to be positive. The correlation between the food or nutrient inputs and time (environmental) inputs will be positive if time (environmental) inputs and food or nutrients are complements in production, and negative if they are substitutes. Thus, if food or nutrients and time (environmental) inputs are complements, the estimated coefficient is biased away from zero. If the inputs are substitutes, then the estimated coefficient is biased towards zero. Based on the results from the nutrient input demand functions, the time inputs of both the husband and wife are complements with nutrient inputs. This suggests that the estimated marginal products for each nutrient is biased away from zero. The effect of the spouses' time in the food input demand equation is the opposite of each other. Therefore, it is difficult to determine the direction of the bias for the marginal product of food inputs due to the omission of the time inputs. Also, the relationship between the included variable and the omitted environmental variables are mixed for both equations making it difficult to determine the direction of the bias.

Discussion and Conclusions

The production functions indicate that, for the last unit of nutrient inputs used in producing family meals, .26, .30 and .23 of calories, protein and fat are transformed into family meals. .65 grams of the last gram of food inputs used in producing family meals are transformed into family meals.

The results from the production functions are similar with respect to 1) the positive sign on inputs and 2) the significance of the coefficients. The greatest discrepancy is between the magnitude of the marginal product for nutrients relative to food.

The statistically significant positive marginal products, whose magnitudes lie between 0 and 1, support the application of a household production model to food/nutrient consumption behavior. Had the marginal product estimates been negative, or greater than 1, then there would have been little support for household production theory based on these results. The magnitude of the marginal products for nutrients may be smaller than the marginal product for food because nutrients are components of food.

The marginal products for both food and nutrients suggest that, at the margin, a large percentage of a household's food/nutrients resources are unaccounted for as being prepared and consumed. The average product figures also indicate that the ratio of output to input is relatively low. As compared with previous research, the nutrient figures are somewhat lower, while the food figure is similar to other studies that utilized the inferential approach. Research that utilized absolute measures of food waste generally found that smaller percentages of available food were unaccounted for as being consumed.

The amount of food and nutrient resources that are transformed into family meals provides some indication of how productively households are using these resources. The unproductive use of food and nutrient resources represents an economic loss to the household, and may also affect the nutritional well-being of household members. The nutritional well-being of household members could potentially be improved by utilizing nutrient resources more productively. Professionals who work with families in managing their food and nutrient resources should be aware of the extent to which households may be using their resources unproductively. Specific reasons for the unproductive use of food and nutrient resources is an area for further research.

The marginal and average product figures also have undesirable implications for households who participate in the Food Stamp Program. There is a 5 percent allowance for food waste in the calculation of food stamp benefits. Although the productivity measures do not measure actual food waste, they do prompt one to consider the possibility that households may waste more than 5 percent of their available food and nutrient resources, on average. If this is the case, then the 5 percent allotment for food waste may not be sufficient in calculating food stamp benefits. This is an area that is deserving of further research.

In summary, this research investigated differences in the marginal productivity of food and nutrient resources in meal preparation and consumption. The appropriateness of food versus nutrients depends primarily on the purpose of the research, and the researchers' theoretical view of the world. Does one believe that consumers demand the characteristics of a good (nutrients) or the good itself (food)? There is, however, a question regarding the appropriateness of aggregating grams of food. Should grams of hamburger, grams of lettuce and grams of eggs be added together? The use of nutrients eliminates this problem. Overall, both approaches provided empirical support for the use of household production theory in describing household behavior.

APPENDICES

Appendix A. Definitions of Variables Used in the Input Demand Function Estimations

Variable Name	Definition	Unit of Analysis
FDINPUT	Average daily quantity of food removed from household supplies in Spring 1977	grams
CINPUT	Average daily quantity of calories removed from household supplies in Spring 1977	kilo-calories
PINPUT	Average daily quantity of protein removed from household supplies in Spring 1977	grams
FINPUT	Average daily quantity of fat removed from household supplies in Spring 1977	grams
FOODPR	A constructed variable to measure food prices faced by the household in Spring 1977	index
CALPR	A constructed variable to measure the price of calories used in meal preparation	$
PROPR	A constructed variable to measure the price of protein used in meal preparation	$
FATPR	A constructed variable to measure the price of fat used in meal preparation	$
CPILTFD	A constructed price index to measure the consumer price index less food prices in March 1977	index
WAGEFM	An instrumental variable to measure the price of home time for the wife	$/hour
WAGEML	An instrumental variable to measure the price of home time for the husband	$/hour
NONWAGE	The sum of income from nonwage sources of the household in 1977	$
FMLEDUC	The amount of formal education attained by the wife	years
MALEDUC	The amount of formal education attained by the husband	years
FEMEXP	A constructed variable to measure the amount of experience in home production attained by the wife	years
MALEXP	A constructed variable to measure the amount of experience in home production attained by the husband	years
K5	The number of children ages 0 to 5 in the home in Spring 1977	actual number
K17	The number of children ages 6 to 17 in the home in Spring 1977	actual number
FREEZE	The presence of a freezer in the home in Spring 1977	1=presence 0=otherwise

Appendix B. Parameter Estimates for the Demand Function for Food Inputs, FDINPUT, Dependent

Independent Variable	B	Stnd. Error of B
INTERCEPT	12369.87	14455.297
FOODPR	-628.409*	83.995
CPILTFD	197.601*	75.383
WAGEFM	-1617.221*	543.725
WAGEML	743.134*	179.371
NONWAGE	0.0519	0.0735
FMLEDUC	-1.0296	93.431
MALEDUC	-211.055**	99.382
FEMEXP	-23.105	34.205
MALEXP	30.24	33.198
K5	533.571	370.212
K17	761.064*	184.765
FREEZE	802.529	611.26

N = 1478 R^2=.14
* = significant at α = .01
** = significant at α = .05

Appendix C. Parameter Estimates for the Demand Function for Calorie Inputs, CINPUT, Dependent

Independent Variable	B	Stnd. Error of B
INTERCEPT	-2056.33	4840.81
CALPR	10633544.89*	134167.52
CPILTFD	28.53	26.78
WAGEFM	-298.58	193.70
WAGEML	-204.28*	65.07
NONWAGE	-0.084*	0.026
FMLEDUC	-47.45	33.21
MALEDUC	-66.87***	35.36
FEMEXP	3.42	12.16
MALEXP	-11.47	11.81
K5	601.28*	130.99
K17	821.02*	62.18
FREEZE	207.06	217.45

N = 1478 R^2=.85
* = significant at α = .01
** = significant at α = .05

Appendix D. Parameter Estimates for the Demand Function for Protein Inputs, PINPUT, Dependent

Independent Variable	B	Stnd. Error of B
INTERCEPT	339.56**	153.98
PROPR	3677.68*	43.30
CPILTFD	-1.47**	0.85
WAGEFM	-8.40	6.16
WAGEML	-2.66	2.07
NONWAGE	-0.0022*	0.0008
FMLEDUC	-0.54	1.056
MALEDUC	-2.35**	1.125
FEMEXP	0.29	0.387
MALEXP	-0.295	0.376
K5	13.278*	4.166
K17	24.45*	1.978
FREEZE	1.17	6.92

N = 1478 R^2=.86

* = significant at α = .01

** = significant at α = .05

*** = significant at α = .10

Appendix E. Parameter Estimates for the Demand Function for Fat Inputs, FINPUT, Dependent

Independent Variable	B	Stnd. Error of B
INTERCEPT	-198.27	270.57
FATPR	52561.24*	750.33
CPILTFD	2.075	1.497
WAGEFM	-7.44	10.83
WAGEML	-8.04**	3.64
NONWAGE	-0.0037**	0.0015
FMLEDUC	-4.165**	1.856
MALEDUC	-4.19**	1.977
FEMEXP	0.413	0.6797
MALEXP	-0.9966	0.66
K5	24.76*	7.32
K17	28.31*	3.475
FREEZE	15.47	12.15

N = 1478 R^2=.81

* = significant at α = .01

** = significant at α = .05

*** = significant at α = .10

REFERENCES

1. Adelson, S. F., Asp, E., and Noble, I. "Discard of Edible Food in Households." Journal of Home Economics 55:633-638.

2. Adrian, J., and Daniel, R. "Impact of Socioeconomic Factors on Consumption of Selected Food Nutrients in the United States." American Journal of Agricultural Economics 58:31-38.

3. Batcher, O. Measures of Food Used and Food Eaten in United States Households: I. Differences in Nutrient Content. U.S.D.A., Human Nutrition Information Service, unpublished paper, 1981.

4. Batcher, O. Measures of Food Used and Food Eaten in United States Households: II. Differences in Quantities and Costs. U.S.D.A., Human Nutrition Information Service, unpublished paper, 1981.

5. Becker, G. S. "A Theory of the Allocation of Time." Economic Journal 75:493-517.

6. Bryant, W. K., Gerner, J. L., and Henze, U. "Estimating Household Production Functions: A Case Study." American Council on Consumer Interests Conference Proceedings, Kansas City, Missouri , April 1983.

7. Harrison, G. G., Rathje, W. L., and Hughes, W. W. "Food Waste Behavior in an Urban Population." Journal of Nutrition Education 7: 13-16.

8. Johnson, S. R., Morgan, K. J., Basiotis, P. P., and Ferguson, L. R. Nutrients Available Versus Nutrient Intake: Results for Low Income Households, 1977-78. Unpublished paper, 1983.

9. Lancaster, K. J. "A New Approach to Consumer Theory." Journal of Political Economy 74: 132-157.

10. Mann, J. S., and St. George, G. E. Estimates of Elasticities in the United States. ESCS-USDA, Technical Bulletin #1850, March 1978.

11. Norum, P. S. Factors Affecting Productivity in Nutrient Consumption. Unpublished dissertation, Cornell University, January 1985.

12. Stafford, K., and Sanik, M. M. "Estimating a Household Production Function for Food." American Council on Consumer Interests Conference Proceedings, Kansas City, Missouri, April 1983.

13. West, D. A., and Price, D. W. "The Effects of Income, Assets, Food Programs, and Household Size on Food Consumption." American Journal of Agricultural Economics 58:725-730.

FOOD CONSUMPTION--DISCUSSION

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This discussion focuses on the presentations by Hanna and Carter looking at "Interaction Effects of Demographic Characteristics on Food Away from Home Spending," Foster's research on "Wife's Education and Family Food Expenditures" and "Norum's Food Versus Nutrients: Productivity Differences in Family Meal Production."

The Hanna and Carter paper documents the growth in food away from home (FAFH) spending. They review the extensive literature on this subject citing several problems with previous studies including the inability to clearly specify the impact on FAFH of wives' employment. The controversy involves whether the wife's employment causes a substitution of purchased services for home production or whether the additional income from the wife's work causes an increase in away from home food expenditures.

The study analyzes eight demographic variables: total consumption (a proxy for income), wife's employment, family size, age of wife, race, region of the U.S., city size and wife's education. These variables are analyzed in bivariate regression and in stepwise models including a model explicitly allowing interaction among the independent variables.

In general, the models illustrate the complexity of the FAFH relationships to these demographic characteristics. The interaction model increases R^2 only slightly. Further, the analysis was able to shed limited light on the wife's employment versus income increase issue. While the authors call for additional research, they give few specific suggestions as to new data or additional methods which could be used. They offer some tentative explanations for their findings but fail to provide clear guidelines for confirming those explanations.

Overall, the paper provides a thorough analysis with a unique look at the interaction effects. The paper is an important contribution to this literature. However, important questions remain which cannot be answered without more descriptive investigation of actual family FAFH patterns. The data under this study were not designed for this analysis.

Foster looks at wife's education and food expenditures based on the rationale that the more education the wife has the more productive she will be in household production. In addition, there is also the belief that wife's education may impact knowledge of nutrition and health issues and thus effect the choice of foods for the family.

Multiple regression was used to analyze the impact of income and wife's education on food consumption at the following four levels of aggregation--expenditures on total food, expenditures on food at home and away from home, expenditure on eight major food groups, and expenditure on 11 individual food products. The results show that wife's education had significant effects on food consumption even when income and other factors were taken into account. These results are consistent with the results of Hanna and Carter. The elasticity estimates in the Foster study appear to show a higher response rate for FAFH on both income and education than in the Hanna and Carter study.

Foster finds some support in her findings for the explanation that wife's education has positive impacts on household production skills. The increased nutritional and health awareness does not show up as clearly in the results. Foster raises several questions about the efficacy of the Consumer Expenditure Survey for research of this kind. She indicates that these data have some fundamental drawbacks for studying the impact of wife's education on food expenditures. She could, I suspect, give us some additional detail on the kind of data she would advise be collected to examine this relationship in greater detail.

This paper brings to light several new findings on the impact of wife's education on food consumption patterns. However, the questions left unanswered are many. This will continue to be an area with extensive research potential.

The Norum paper goes the farthest of the three in introducing a "new" way of looking at family food consumption activities. The basis of the paper is the application of household production theory to family food consumption. Household production theory concentrates on explaining "consumption" by looking at it as the process of taking inputs and "producing" desired attributes. This is analogous to the theory of production which examines the way firms combine inputs like capital and labor to produce goods. The paper goes further in that it looks at the nutrient characteristics of food inputs and the nutrient characteristics of the meals produced.

The analysis looks at the conversion of food to meals (average daily quantity of food in grams removed from household supplies converted to average daily quantity of food in grams of food prepared and consumed) and the conversion of nutrients (calories, protein and fat) from family supplies to nutrients prepared and consumed.

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Thus, the study can look at conversion of food supplies to food consumed and the conversion of nutrient supplies to nutrients consumed. The results indicated that the conversion of food to meals resulted in .65 units of meals consumed for each 1.00 unit of food removed from supplies. Thus .35 units were "wasted".

In the case of nutrients the conversions were for 1 unit of calories removed resulted in .26 units of calories consumed, for fat it was .23 and for protein it was .30. Thus, the nutrient "waste" was much higher than when using food as the category.

Norum goes on to examine the relationship between marginal and average product in these production processes. For nutrients, the more they consumed the less productive they were. For food, the more they consumed the more productive they were. She attributed these findings to biases introduced when omitting relevant variables such as time inputs or other relevant inputs. Norum cites the importance of her findings in terms of household efficiency and implications of inefficient conversions of food and nutrients into consumption.

She specifically raises questions about standard assumptions of household efficiencies such as seen in the food stamp program where only a five percent allowance is given for food waste in the calculation of benefits.

Norum's study is an important attempt to use household production theory in investigating food consumption patterns. However, as the author admits, there is substantial additional work to be done in understanding the household food production process. For example, it seems naive to assume that the objective relative to calorie, fat, and protein is to achieve maximum conversion from inventory to food prepared. Many families are concerned about reducing calories and fat from raw inventory to final finished good.

As Norum indicates, the relationship of time and other environmental variables to the food production processes is important. Additional information could clarify this issue. Finally, all these studies make a contribution to our understanding of food consumption and the information necessary to understand the process better.

In each case, the authors are ultimately stymied by the lack of data available for their needs. As a profession, these and other studies point to the need for us to become concerned again with the collection of primary data. While this has become unfashionable and extremely costly, these studies show that even with sophisticated, modern statistical techniques readily available, secondary data may not give us the information we need.

WOMEN'S LABOR FORCE PARTICIPATION: ECONOMIC IMPLICATIONS FOR RETIREMENT PLANNING

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ABSTRACT

The number of women participating in the paid labor force has increased dramatically. As a result, changes need to occur in retirement. This roundtable presented some demographic data concerning the labor force participation of women, the economic and financial implications for retirement planning, and the long-term implications of the increased number of women in the paid labor force.

DEMOGRAPHICS

Since World War II, women's labor force participation rates have increased dramatically. In 1983, 52.3 percent of all women were in the civilian work force compared to a participation rate of 24 percent in 1930 (2). In 1984, six out of ten mothers were in the paid labor force and 71 percent of these mothers were working full time (7). Today, a woman's worklife expectancy is increasing faster than her life expectancy, rising from 14.5 years in 1950 to 26 years in 1977 (3). Despite the dramatic increases, women are still concentrated in the lower paying professions. In 1983, 22 percent of employed women were employed in managerial or professional sectors, 45.9 percent were in technical, sales and administrative support, and 18.8 percent were in service occupations (3). Though women's earnings impact greatly on family income, there is a lower savings to income ratio for families with working wives (6).

ECONOMIC AND FINANCIAL IMPLICATIONS

The adequacy and equity of benefits for women is dependent upon how an individual's retirement system, both Social Security and pension, is set up. Social Security does not necessarily compensate a married working woman fairly for her contribution to the system. A woman who has worked in the paid labor force qualifies for dependent benefits equal to one half her husband's retirement benefit or benefits based on her own work history, whichever is greater (9). As a result of her anticipated high average life expectancy, a woman will receive a lower per period benefit under most pension plans, for the same work history and same earnings rate, as her male counterpart (5). Therefore, while women may receive the same total benefit from a pension plan, they may receive a lower per period benefit resulting in a lower level of living during retirement.

The growth of the middle to older work force and the increase in the number of women in the paid labor force are anticipated to be the most significant factors affecting the labor force in the next two decades (8). These increases are causing researchers to re-evaluate wage differentials, fringe benefits, and retirement programs in order to make them more equitable. There is a need for women to be especially alert to the differences between defined-contribution and defined-benefit pension plans as the latter is more likely to provide the same monthly benefit for both men and women (1). Finally, an increase in the mandatory retirement age may benefit women (4) by allowing them to start careers after child-rearing, by remaining in the work force long enough for employers to consider them worth training, and by providing the opportunity to accrue more sizable retirement benefits. Pre-retirement programs need to be made more available and understandable so both men and women alike can do a better job of evaluating the advantages and shortcomings of their present pension coverage before it is too late.

REFERENCES

1. Bristol, J.T. A pension plan primer. Arkansas Business and Economic Review, 1983, 16, 10-17.

2. Bureau of Labor Statistics. Families at work: the jobs and the pay, Bulletin 2209, Washington D.C.: U.S. Dept. of Labor, August 1984.

3. Bureau of Labor Statistics. Women at work: chartbook, Bulletin 2168, Washington D.C.: U.S. Dept. of Labor, April 1983.

4. Campbell, S. Delayed mandatory retirement and the working woman. The Gerontologist, 1979, 19, 257-263.

5. Duncan, G.J., Mitchell, O.S., and Morgan, J.N. A framework for setting retirement savings and goals. J. of Consumer Affairs, Summer 1984, 107, 22-46.

6. Foster, A. Wives earnings as a factor in family net worth accumulation, Monthly Labor Review, 1981, 104, 53-57.

7. Hayghe, H. Working mothers reach record number in 1984, Monthly Labor Review, 1984, 107, 31-34.

8. Morrison, M.H. Aging and the work force: focusing on realities, Aging and Work, 1983, 6, 49-56.

9. Schulz, J.H. The economics of aging. Belmont, CA: Wadsworth Publishing Co., 1985.

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YOUNG CONSUMER PERCEPTIONS OF THE HONESTY AND ETHICAL STANDARDS FOR HIGHLY VISIBLE PROFESSIONALS IN SERVICE INDUSTRIES

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ABSTRACT

A survey of 1500 young consumers was conducted to estimate the influence of market experience on the perceptions of the honesty and ethical standards of selected professionals. Young consumer groups were high school students, college students, recent college graduates, and other college graduates who are relatively young and upward mobile.

This study was undertaken to determine if people's perceptions of the honesty and ethical standards of selected professionals in service industries change over a period of time. To determine this, a survey was conducted among 1500 young consumers, all of whom were students or former students in the state of Wisconsin. The young consumers, classified into three groups, were chosen to respond to a questionnaire involving the honesty and ethical standards of selected professionals. The first group was comprised of a random sample of students from twelve different high schools. The second group was a stratified sample of college students at the University of Wisconsin - Whitewater. The last group consisted of adults selected from the mailing list in the alumni office at the same university. Approximately thirty percent of these adults are now living outside the state of Wisconsin. Among the professionals whose honesty and ethics were rated in the study were journalists, medical doctors, advertising practitioners, college professors, engineers, psychiatrists, building contractors, business executives, labor union leaders, and lawyers.

The survey instrument was derived from a Gallop Poll study. All respondents were requested to rate the honesty and ethical standards of the selected professionals on a five point Likert-type scale according to their own opinions. Parametric and non-parametric analysis techniques were used to determine significant differences among the groups.

RESULTS

Most of the responses from the three groups revealed that as age/market experience increases, there was a corresponding decrease in the perceptions of the honesty and ethical standards of the given professionals. The following examples are typical of the results:

PSYCHIATRISTS	Rated High	LAWYERS	Rated High
High School Students	51.7%	High School Students	39.2%
College Students	46.4%	College Students	38.6%
Adults	27.3%	Adults	19.2%

JOURNALISTS	Rated High	ADVERTISING PRACTITIONERS	Rated High
High School Students	23.1%	High School Students	13.7%
College Students	18.8%	College Students	10.0%
Adults	16.7%	Adults	7.2%

Two professional areas that were exceptions to the rule were engineers and college teachers. The responses to these areas are shown below:

ENGINEERS	Rated High	COLLEGE TEACHERS	Rated High
High School Students	53.5%	High School Students	54.7%
College Students	66.4%	College Students	66.8%
Adults	59.5%	Adults	59.9%

Although the college age group and adults rated the honesty and ethical behavior of the engineers and college teachers higher than high school students did, the adults (alumni) consistently rated them lower than did college students. Perhaps these two professional areas appeal most to college students and tend to lose little appeal after personal experience with them.

Another interesting point can be observed when looking at the responses on the survey from the three groups. In every instance the college age group used the "no opinion" response the least. The high school age group and adults used the "no opinion" choice two to four times more often than did the college age group. This might be because college students are accustomed to responding to questions or they think they need to have a response. Perhaps they do not want to be "fence walkers" but feel they must have an opinion about any subject.

The next comparison was made by using only the senior students from the college age group and dividing the adults (alumni) into two categories: those who had graduated five years ago and those who had graduated ten years ago. Once again the earlier trend appeared: the older the respondents were and the more knowledge or experience they had with professionals, the lower they rated them according to their honesty and ethical behavior. This trend may indicate that the longer we are out in society dealing in the work-a-day world and becoming involved with various professionals, the less we hold them in esteem. The following six examples are shown to be very typical of the attitudes of these three adult groups:

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MEDICAL DOCTOR	Rated High	PSYCHIATRISTS	Rated High
College Seniors	69.6%	College Seniors	40.0%
5 year alumni	61.0%	5 year alumni	30.0%
10 year alumni	57.0%	10 year alumni	27.6%

LAWYERS	Rated High	BUILDING CONTRACTORS	Rated High
College Seniors	33.3%	College Seniors	16.8%
5 year alumni	20.8%	5 year alumni	7.5%
10 year alumni	16.5%	10 year alumni	5.4%

LABOR UNION LEADERS	Rated High	ADVERTISING PRACTITIONERS	Rated High
College Seniors	11.0%	College Seniors	9.6%
5 year alumni	9.4%	5 year alumni	7.6%
10 year alumni	4.3%	10 year alumni	6.5%

In a comparison of the answers from college senior students with those from the adults (alumni) who had been out of college five years and those from alumni who graduated ten years ago, the group of adults that had been out of college five years consistently used the "no opinion" choice two or three times more often than did the college seniors or the ten year alumni. Perhaps some five year alumni may be too busy establishing themselves in a career to take the time or consideration for a thought-out answer to the survey.

FURTHER STUDY

To determine just what factors help determine our opinions and attitudes of the honesty and ethical standards of professionals in service industries, it could be beneficial to have further study completed involving such demographic variables as: occupation, education and income of parents; rural or urban background; grade point average; and sex. In addition there are areas that could not be quantified: influence of peers, personal first hand experience or involvement with these professionals, influence of current events or media emphasis at the time of the survey, etc.

Since all of the adults for this study were college graduates, it might be interesting to see how adults of the same age but without college degrees would respond to the same questionnaire. If a significant difference surfaced, it might mean the variable of college education was a factor in determining the opinions of adults on the honesty and ethical standards of professionals. Further study might be done in other parts of the country to see if there are geographically-related differences.

From this study, however, it does appear that the more market experience people possess and perhaps the better educated they are, the lower they view the professionals sampled in terms of trust and ethical behavior.

CONTENT ANALYSIS AND CONSUMER RESEARCH

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PURPOSE

The purpose of the roundtable discussion was to acquaint participants with content analysis and its application. Problems and applications of the methodology in consumer research was addressed. Open discussion and an exchange of ideas occurred during the remainder of the session.

INTRODUCTION

According to Holsti, content analysis is any technique for making inferences by objectively and systematically identifying specified characteristics of messages. (1) As a research technique, content analysis has been used extensively in Sociology, Anthropology, Communications and Political Science. Therefore, given the multidisciplinary roots of consumer science, content analysis should also have potential for consumer interest research. Yet, there has not been much respect for content analysis as a methodology because past researchers have not followed appropriate procedures that they would automatically follow with other methodologies. For example, content analysis is frequently used in "fishing expedition" research which lacks theoretical considerations or research designs. There seems to be the feeling that content analysis will render "quick and easy" results for publications. However, a study using a rigorous content analysis can be even more demanding in terms of time and other resources than a study using the traditional methodologies.

The following topics were presented during the discussion: 1), characteristics of the method, 2). research design and making inferences, 3). sampling, 4). measurement unitizing, coding, and categorizing, 5). standards for reliability and validity, 6). computer applications and analysis.

COMMENTS

Several years of the Journal of Consumer Research, Journal of Consumer Affairs, and Journal of Consumer Studies and Home Economics were reviewed for research utilizing content analysis. As anticipated, most of the research was of the "fishing expedition" type. Suggestions for consumer researchers using content analysis fell into the following areas: 1). Use suitable research designs, 2). Follow rules for category formation, 3). State intercoder reliability coefficients and which formula was used to calculate the coefficient, 4). Adequately define and justify the sample, 5). Keep an accurate account of all coding training instructions and recording procedures, 6). Become familiar with the literature on the methodology.

REFERENCES

1. Holsti, O. R. Content Analysis for the Social Sciences and Humanities. Reading, MA: Addison-Wesley Publishing Company, 1969.

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USE OF FRAMEWORK FOR THE CONSUMPTION OF SERVICES: SELECTING PROVIDERS OF FINANCIAL PLANNING SERVICES

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Abstract

A framework utilizing a six step process can provide structure for teaching about purchasing services. The services examined by this framework can include those provided by individuals directly to other individuals, for e.g. doctors, accountants and dentists and those services provided by companies, for e.g. mail order catalogues and lawn care services. A previous paper considered the application of the framework to selecting providers of financial planning services (1). This paper explains how each step of the framework can be used as an ordered process for examining the purchasing of consumer services.

Introduction

With an increasing percentage of the dollar being spent on services, the tools and skills that have been useful for consumers seeking product information and making decisions about the purchase of tangible goods are inadequate for general use in purchasing principles applicable to both goods and services. As stated in the introduction to a bibliography on consumer services providers, "... finding reliable information on quality or prices is often difficult. Because of this, the marketplace in which services are purchased works poorly. There are large differences among service providers (firms and professionals who provide consumer services) in both price and quality, and little price-quality correlation" (2). Further, since most service providers do business in a single locale, and procedures for choosing service providers are more subjective than for evaluating goods, informational resources such as the influential product testing reports of Consumer's Union are not widely available.

To provide a means by which study of the purchase of services could be achieved in a systematic manner, a framework was developed to give organization to the task of seeking and using relevant facts and data. This framework, designed to provide a generalized approach for use in examining the purchase of specific services, utilizes a six step process. It is intended to be used by educators in developing curriculum, by researchers in considering possible research topics and by individual consumers in actually purchasing services.

This framework has been used with adult audiences enrolled in non-credit classes, in-service teachers and in graduate and undergraduate college courses. The framework is intended to be used for the examination of services as defined in a broad sense but governmental services are only to be considered when such services are alternatives to private sector service providers.

The purchasing of services is unique in a number of ways. Frequently a purchase occurs because of an induced demand. The dominant role that human relationships play in the rendering of services further complicates the purchase choice and later evaluation of the quality of the service rendered.

Social mores have made the discussion of payment procedures inappropriate and the presence of third-party payment systems has caused some consumers to determine that such discussion is unnecessary. While price information is difficult to obtain, the obtaining of performance information is not generally available, and objective performance data is almost nonexistent. For the service industries, complaint procedures are generally not well developed, and effective third party assistance is extremely limited. Furthermore, while licensing and certification are intended to protect the public, the proliferation of both in recent years has contributed to the dilemma of consumer information overload without a corresponding increase in useable pre-purchase information.

Many services have changed dramatically over the years, however until consumers go to purchase them they are unaware of such changes. For example, the emphasis in dentistry, accompanied by innovations such as cosmetic bonding. New services have sprung into existence, ranging from sitters for house and dogs to financial planners providing comprehensive money management services. The methods of delivery of such services have also changed as the recent advent of department store dental clinics and urgent care centers substantiates.

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Not only has the growth of the service industry become a larger portion of the GNP, but within that growth different services have captured different positions. To illustrate this point, compare the number of financial planners in 1984 with the number of blacksmiths. Or consider the fact that at the close of World War II most individuals prepared their own tax returns while today estimates run as high as 70% of all returns being prepared by other than the taxpayer.

Abundant resources are available from industries' trade and professional associations. Such associations have been established for most fields of business and consumer interest and number approximately 40,000 nationwide. While these associations are formed to assist in business problems and promote the industry, they do offer varying consumer services. The governmental units linked to a particular service industry are another source of pre-purchase information. For example, both the Federal Trade Commission and the Wisconsin Department of Justice have produced informational booklets on the Federal Trade Commission funeral disclosure rule.

Today there are an estimated 1500 state boards which license or register more than 550 professions and occupations. Historically licensing evolved from the use of the state's police power in protecting the public's health, safety and welfare. State boards perform a variety of services including setting standards, promulgating rules and regulations, issuing and revoking licenses and bringing disciplinary actions. Certification is a public statement regarding the practitioner's competence since only those practitioners who meet prescribed standards of performance are issued certificates. However, those who fail to become certified can still engage in the occupation, for example the accountant who is not a CPA and the life insurance salesman who is not a chartered life underwriter. While a majority of consumers could probably recognize the symbols of M.D. and C.P.A., many might not be able to differentiate between the licensing of the medical doctor and the certifying of the accountant. Probably far fewer consumers could describe the source of the licensing or certification and the standards by which the judging was done. Consumer educators thus need to emphasize that two basic questions need to be asked about certification: "Who is doing the certifying:" and "What are the standards?".

Consumer problems, certainly exist in the service industries and some problems are common to a number of service providers. One that frequently occurs when a consumer deals with a professional person is a communication barrier, when the jargon of the profession is used. In dealing with repair service providers, it is common to encounter claims for work that supposedly must be done when in fact the reverse is true or claims that work was done when it was not. Other consumer problems are unique to specific services. The emotional state of the consumer increases the potential for poor purchasing when dealing with funeral service providers or mental health professionals. The infrequency of purchasing certain services also contributes to the consumer's difficulties.

In the service sector the inadequate number of efficient, prompt complaint procedures should alert the consumer to the real need of thorough pre-purchase investigation. A consumer can take a dress back to the retailer, send a can of peaches back to the manufacturer or contact a third-party for dispute resolution. In the service industry, however, the complaint redress process has not yet become standardized so it remains of only minimal usefulness to consumers.

To initially locate possible service providers a consumer should talk with persons who work in a particular area or one related to it and have therefore dealt with a service provider. For example, in choosing an attorney, one could talk with persons who have through their employment been in contact with a number of attorneys. The same principle applies when one asks a hospital nurse about physicians, or questions a personnel director about private employment agencies.

The specific questions to be asked service providers should be organized by categories. For example, although day care and nursing care services are at opposite ends of a continuum, there is a great similarity in the specific questions a consumer needs to ask. In both situations, it is important to develop questions in the areas of staff, programs, physical setting and facilities, and policy questions. Within a given industry, the questions should be classified by the facility and equipment, the qualifications of the repair person, and policy questions regarding pricing and complaint handling.

The framework is sequentially developed with each step building on information previously sought. This offers a distinct advantage over the majority of consumer oriented articles on services which have been focused only on the specific questions to be asked of the service providers. That approach however suffers from two major weaknesses. First, is the failure to delineate how to select the service providers to be questioned and secondly, the failure to organize such questions in a helpful or meaningful manner. Thus, the questions to be asked and the purchasing guidelines are the final step in this process.

The steps to be followed are:

#1. Explore the nature of the services. This includes both the definition and explanation of the variety of particular services available within the service area, the identification of the methods and channels of delivery for the service and a delineation of the size and distribution of the industry providing the services.

#2. Specify the resources including the industry's trade and professional associations and the governmental units involved with the service.

#3. Define and explain the registration, certification and/or licensing of the service; determine the source and standards involved.

#4. Enumerate problems common to the purchasing of all services and identify those problems unique to the purchase of the particular service.

#5. Identify the sources and explain the procedures for complaint resolution.

#6. Develop a purchasing guideline which includes the selection of possible providers and delineates and classifies specific questions.

The use of a framework can bring order to the chaos of information and therefore give value to facts and data that would otherwise be useless. This framework is designed to provide a generalized approach for use in examining the purchase of specific services. The framework can be used by educators in developing curriculum, by researchers in considering possible research topics and by individual consumers in actually purchasing services.

REFERENCES

1. Barsness, Anita and Heinzerling, Barbara. "Use of Framework for the Consumption of Services: Selecting Providers of Financial Planning Services." Proceedings, 15th Annual Conference for the Southeastern Regional Conference for Family Economics/Home Management, Akron, Ohio, 1986.

2. Jackson, Gregg B. and Meyer, Francine H. Evaluations of Firms and Professionals Who Provide Consumer Services. Washington Center for the Study of Services, 1981.

ECONOMIC WELL-BEING OF ELDERLY WOMEN

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ABSTRACT

Though the economic status of the elderly has improved substantially in the last few decades, elderly women, especially widows, still are among the most disadvantaged in the United States. Due to demographic, economic, and social trends, the elderly's problems are mostly women's problems. The purpose of this roundtable discussion was to 1) accentuate the inappropriateness of referring to "the elderly" as a collective group; 2) to review some reasons why elderly women face financial hardship; and 3) to discuss what educators can do to alleviate poverty among elderly women.

Do women in retirement face poverty of prosperity? The popular press would have us believe prosperity is the norm. Consider these examples:

-- Reports Business Week, older Americans lead in spending power. The discretionary income of those under 35 years of age is $2,628; 35-50 - $2,904; 50-55 - $3,685; 55-60 - $4,494; 60-65 - $4,571; and 65 and over - $5,219 [1].

-- Reports the Washington Post, the elderly exceed average income. Per capita, after-tax income was $6,300 for those 65 and older in 1980 compared to $5,964 for the population as a whole [2].

-- Reports the Des Moines Register, "woopies" are a group worth watching. "Woopies" are well-off older people who are not only "your elders, they're probably your betters, financially speaking" [4].

NO COLLECTIVE AGED

The reports are true -- the elderly are far more economically advantaged than in previous decades and are fairly well off. But there is no such thing as the collective aged. The elderly are just as diverse as the population itself; this is especially true for economic status. The over-65 group can be divided by retired versus non-retired, dual versus single pensioners, age (young-old, old-old), race, and sex, the most basic difference of all.

Compared to older men, older women are disproportionately poor. Almost two times more women than men over age 65 live in poverty. Three times more women than men receive Supplemental Security Income. More than 50 percent of single women over age 75 live at or below the poverty level.

WHY POVERTY?

Women live longer than men and currently outnumber them three to two. The sex ratio of the 65 and over population showed 100 women for every 69 men in 1975; by the year 2000, the ratio is expected to be 100 women for every 65 men.

The life expectancy differential, combined with the greater tendency for older men to remarry and choose younger women, results in huge sex differences in marital status and living arrangements among persons 65 and over. Older men are usually married and relatively few live alone. In contrast almost two-thirds of older women are widowed, divorced, or single and almost half of them live alone or with nonrelatives. Poverty, oftentimes experienced for the first time, is disproportionately high among women facing these circumstances.

Another factor contributing to poverty among women is their lack of college attendance, as compared to men, and their choice of financial dependency on a spouse. Even for those women who do enter the labor force, intermittent employment records and the common choice of low-paying clerical, sales or service occupations negatively affect future retirement benefits.

Complacency about finances is another factor leading to poverty for women in retirement. Bettye Thompson writes, "American laws and practices as well as the Social Security System cast homemakers into a dependency role until as older women they find they must fend for themselves; then a high price is paid for having bought the socially prescribed role" [3].

GROUP DISCUSSION

Discussants agreed that women, whatever their chosen role, have a responsibility to choose competence, not complacency, about finances. Once this competence is attained, confidence in their own ability must be a follow-up. Through classroom and Extension outlets, preventative education can help young women learn how to prepare now for financial security in retirement.

REFERENCES

1. Business Week. March 10, 1986, p. 60.
2. Rich, S. "Survey Shows Elderly Exceed Average Income." Washington Post, Aug. 19, 1983, pp. A1, A3.
3. Thompson, B. D. "Implications of Traditional Sex Role Socialization: The Vulnerability of Older Women." Convergence on Aging, Vol.2, pp. 106-111.
4. "Woopies, a Group Worth Watching." Des Moines Register, September 15, 1985, p. 21.

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EXTENSION'S ROLE IN THE FINANCIAL SERVICE INDUSTRY: A MODEL PROJECT

Mary J. Stephenson, University of Maryland[1]

ABSTRACT

The Maryland Cooperative Extension Service has created a model project for the purpose of educating the general public in the area of personal finance. The project is funded by USDA and includes extensive training of county Extension home economists and the development of educational materials to be used in programming.

Congress called for new initiatives in 1977 to improve and expand research and extension programs in home economics. The initiatives proposed were organized under four thrusts: family economic stability and security; energy and environment; food, nutrition, and health; and family strengths and social environment. The new initiative being stressed by USDA and addressed by this model project is family economic stability and security.

The Maryland Extension Home Economics Department was awarded a grant by USDA for the purpose of curriculum development in the area of personal and family finance. The curriculum will be used to train county home economists who in turn will provide educational opportunities to the general public.

The idea for this project originated in December of 1983 when a needs assessment of county home economists indicated a serious lack of expertise in the area of personal finance. This accounted for the limited number of programs being taught in communities on that subject. In order to prepare competent staff the USDA grant is being used in Maryland to:

- provide annual training of County Extension home economists
- develop educational materials for use in county programming

The USDA grant facilitates the sharing of the model materials (publications and visuals) with Extension personnel in other states, Puerto Rico, Guam and the District of Columbia.

Training of County Home Economists

No college or university in the state offers financial planning education in depth; therefore, the courses were developed by state Extension home economics specialists with expertise and responsibilities in the area of finance.

Four non-credit courses were developed. They are taught off-campus in each of the three Maryland Extension regions, and they are structured like credited university classes complete with textbooks, assigned readings, study guides and exams. Agents may take them for university credit if desired. The four college-level courses are:

Introduction to Personal Finance
Insurance Principles and Practices
Investment Principles and Portfolio Management
Retirement and Estate Planning

Two classes are taught each summer, rotating until all Extension home economists responsible for the area of personal finance are competent to teach the subject.

This training becomes the basis for county agents to present programs to the general public on timely topics such as:

Cutting Your Insurance Costs
Writing Wills in Maryland
Investments for the Novice
Financial Impact of Death and Divorce
Choosing a Financial Advisor

Development of Educational Materials

Extension personnel use a variety of teaching methods. Intensive study is provided through individual contacts, workshops, and small or large group meetings. Large numbers of persons are reached through radio, television, newspapers, newsletters, publications, self-study courses, computer-assisted instruction, and audio-visual teleconferences.

In order to meet these needs, a comprehensive set of materials is being developed by the state specialists for county use in programming. They include bulletins, factsheets, leaders guides, evaluation instruments, and visuals. Some program packets include activities for participants.

The financial areas in which materials are being developed are budgeting, record organization, credit, insurance, savings, investments, retirement and estate planning.

Conclusion

An essential component of the model project is ongoing evalution for the purpose of accountability and administrative decision-making. The first and second phases of agent training have received an overwhelmingly positive evaluation. Programming by agents in the area of personal finance has dramatically increased. These programs are currently being evaluated.

The task of providing financial education to the nation's citizens is Extension's role in the financial service industry. The end result will be knowledgeable consumers. These knowledgeable consumers will make the informed decisions necessary to establish family economic stability and security.

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SOCIETAL RISK RESPONSE AND CONSUMER WELFARE[1]

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ABSTRACT

Health and safety have become major consumer issues in the 1980's. Major questions concern who should decide for whom what level of safety and health is appropriate. This paper examines the role of consumers and government in the consumer protection process. Consideration is given to consumer risk perception and risk response, the need for government intervention and the degree to which such intervention increases consumer welfare.

INTRODUCTION

The role of the consumer in the consumer protection process has received increased attention in recent years. Major arguments for relying on consumers to protect themselves pertain to efficiency and equity since multiple risk responses are permitted. The objectives of this paper are to examine consumer risk response in the areas of health and safety and the degree to which reliance on consumers might be optimal for society. The first part of the paper examines consumer risk response and the conditions under which government intervention might be justified. The second part of the paper examines government risk response and various approaches to risk evaluation. The results of this paper are important for consumer educators, consumer economists and policymakers who are concerned with health and safety issues.

PART I: CONSUMER RISK RESPONSE

Reliance on consumers to make decisions in areas of health and safety has considerable appeal for several reasons. First, government intervention by means of health or safety regulations poses a threat to individual liberties. As Swegler noted, "If the government can control certain types of personal activities, what is to prevent that control from being extended" [31, p. 215]. He commented that both smoking and excessive drinking impose serious losses on society due to medical costs and production losses. However, society has been reluctant to ban cigarettes or alcoholic beverages.

The second argument pertains to efficiency. It is argued that individuals may differ in their attitudes towards risk and willingness to pay for risk reduction. Under such circumstances reliance on consumers to protect themselves is more efficient than government regulations which entail a single level of safety or health for all individuals irrespective of their preferences. A major consumer right - the right to choose - is based on the realization that preferences of individuals vary and that consumption decisions should be left to consumers. Rothenberg [25] argues for "the consumer's right to be often wrong" in preferences to government intervention which is based on incomplete information about consumer tastes and preferences.

Consumer responses to risk regulation may also be off-setting. Thus, the installation of air bags should reduce the risk of death by at least 25 percent unless drivers respond by taking more risks, e.g., speeding, driving recklessly, driving while intoxicated, driving in unsafe conditions. As a result, the estimated 25 percent reduction in fatalities may never occur. This phenomenon was noted by Peltzman [24] in 1975. He investigated the impact of safety regulations for automobiles from 1966 to 1972 and concluded that the response of drivers had offset the beneficial effects of the new safety regulations. Peltzman's findings were controversial and stimulated considerable debate. The ensuing research provided support for safety standards in some instances and support for Peltzman's findings in other instances [5]. The differences in these results were attributed to model specifications. A recent study by Crandall and Graham [5] found evidence that safety standards had reduced fatalities in spite of some offsetting behavior.

Offsetting behavior has also been found for other consumer activities. A study at the University of California at Santa Barbara examined the impact of five engineering programs which were designed to reduce bicycle accidents. They included wider highways, traffic circles and bike-free zones. In spite of these improvements, accidents increased rather than decreased [34]. Viscusi [32] also found an apparent correlation between child-resistant packages and an increase in accidental poisonings. He stated that consumers might have become less safety conscious due to the existence of safety caps.

Finally, government intervention may be subject to considerable regulatory delays. Passive restraints for automobiles are an example of such delays. In July of 1970 the National Highway Safety Bureau issued a standard for passive restraints in automobiles which was to become effective in July of 1973 [17]. This date was extended to the 1976 and 1977 model years in response to concerns expressed by industry. In July 1977 a new rule was issued by the National Highway Traffic Safety Administration (NHTSA) which required front-seat passive protection for all automobiles. The effective dates for large, intermediate and small cars were September 1981, 1982 and 1983 respectively. The rule was delayed for one year and was rescinded in October 1981. The decision was appealed and in May 1982 the U.S. Court of Appeals sent the recision back to NHTSA stating that the recision "failed to heed the goals that Congress has asked (the agency) to meet." In response to the Court's ruling the U.S. Department of Transportation ordered that all 1990 models must be equipped with automatic restraints unless two-thirds of the nation's population were covered by state laws requiring seat belt use by 1989. Thus, a twenty-year period will have elapsed between the first passive restraint standard and the actual implementation of a standard or passage of laws mandating seat belt usage.

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In view of the advantages of consumer choice and the disadvantages of government regulation, it might be queried why government intervention occurs. One major reason is information failures which means that society cannot rely on consumers to protect themselves [8]. There have been numerous instances of the failure of individuals to purchase insurance in spite of the need for such actions [1, 2, 20, 35]. These real-life findings have been reinforced by several field and laboratory studies of insurance purchase decisions. Slovic found that individuals were "more willing to insure against small losses with relatively high probabilities than against large but unlikely losses" [28, p. 5]. He concluded that individuals tended to discount low probability hazards in contrast to high probability hazards where insurance became a type of investment. The higher the probability of a hazard, the more likely the individual was to receive some return from the investment and the greater the incentive to purchase insurance. A study of the use of seat belts also indicated a failure of consumers to take protective action in spite of the fact that the benefits from such actions were considerably higher than the costs [6]. Inadequate risk perception may be the major reasons for such responses. Slovic investigated the perceived frequency of fatal events and found that there was a considerable difference between actual and perceived frequencies. He concluded that we "cannot assume that intelligent citizens have valid perceptions of the frequency of hazards to which they are exposed" [27, p. 62].

Consumer risk response may also be affected by the fact that the degree of protection provided by their response is limited. Thus, there is no guarantee to the individual that his life will be saved if he takes protective actions, e.g., wears a seat belt, buys a smoke detector. In contrast, there is less uncertainty for society as a whole since a certain number of unidentified lives will be saved when government issues health or safety regulations.

Inadequate risk perception and risk response are not the only reasons for government intervention. Even more critical may be the degree to which the individual has control over the level of risk to which he is exposed. The public may be less tolerant of risk imposed by others. Starr [29] found that the public was willing to accept higher levels of risk for voluntary than for involuntary activities. Lowrance comments, "it is one thing to go skiing, drive a sports car, use a tool without safeguards, smoke cigarettes or eat the vegetables we have sprayed ourselves; but it is quite another to breath the air or endure the noise where we live (and few of us are really free to move away), dodge the traffic on our way to work or drink water from our municipal supply" [21, pp. 87-88]. Finally, inadequate risk response may also impose economic losses on others. Thus, the economic losses from smoking (medical costs, lost output) are borne both by the individual and by society in the form of Medicaid, Medicare, and higher insurance premiums. Risk imposed by others or economic losses imposed by others are examples of third party spill-over effects which justify government intervention.

PART II: GOVERNMENT RISK RESPONSE

Lowrance [21] distinguishes between measuring risk and judging safety. "Measuring risk - measuring the probability of severity of harm - is an empirical scientific activity, while judging safety - judging the acceptability of risk - is a normative political activity" [21, pp. 75-76]. In the case of government intervention determining the acceptability of risk is a major problem since individuals differ with respect to their attitude towards risk.

Four basic approaches to risk evaluation have been identified by Kates [18]. They are risk aversion, risk balancing, cost-benefit analysis and risk-benefit analysis. In the first instance, the focus is on risk avoidance and risk minimization irrespective of other risks and benefits. Examples of risk aversion are zero tolerance standards for pollutants, impurities or food additives. The 1958 Delaney Amendment to the Food, Drug and Cosmetics Act is an example of the zero risk approach. It states:

> No additive shall be deemed to be safe if it is found to induce cancer when injested by man or animal, or if it is found, after tests which are appropriate for the evaluation of the safety of food additives, to induce cancer in man or animal.

Havender [15] commented that under this Amendment an additive would have to be banned even if there were contributing benefits. In the case of saccharin, the perceived benefits (weight reduction) were greater than the perceived risks and the proposed ban on saccharin was withdrawn in response to public protest.

Risk balancing compares frequencies of mortality or morbidity for different activities. Besuner and Gibson concluded that the risk associated with a product or activity was acceptable if it fell at the lower end of the scale [23]. For purposes of comparison rates per hour of exposure should be used. In cost-benefit analysis the benefits to society from reducing risk are compared to the costs of the risk reduction measures. A risk is unacceptable if the benefits from risk reduction measures are greater than the costs [8, 19, 21, 26].

The final measure compares the risk and benefits to society from an activity [4, 7, 10, 12, 22, 23, 29, 30]. This approach was first used by Starr [29] and was based on the assumption that society's risk acceptance reflected a balancing of risks and benefits. Starr concluded that the acceptability of risk was proportional to the benefits from the activity and that society was willing to accept higher levels of risk from voluntary as opposed to involuntary activities.

The information requirements of the four approaches vary to a considerable extent. Risk aversion is the least demanding since neither the benefits from the activity nor the costs of risk reduction are required. Risk balancing also avoids these considerations but requires more information in that the risks from various activities are compared. The other two approaches are more complex [21, 26]. The treatment of intangibles (pain and suffering) and incommensurables (life values) has resulted in recommendations that cost-effective analysis be used in place of cost-benefit analysis [9]. However, cost-effectiveness analysis provides less information to the policymaker since the degree of risk reduction is determined in advance and the magnitude of the ensuing costs and benefits are never compared. The major problem with respect to risk-benefit analysis pertains to the measurement of benefits [21, 22, 23]. At the moment, risk measurement (the probability of severity of harm and its economic consequences) is more highly advanced than benefit measurement (the utility derived from the activity in question).

Another approach to risk evaluation is to examine various considerations that might influence the decisions of policymakers. A list of considerations was developed by Lowrance [21] and is given in Table 1. Many of these considerations are inter-related. Thus, a risk where exposure is an essential, where no alternatives are available, and which is encountered occupationally is more likely to be tolerated by society than risks where exposure is a luxury, where alternatives are available and which are not encountered occupationally. Similarly, a risk which is assumed voluntarily, where the effects are immediate, and where the consequences are reversible is more acceptable than risks at the other end of the scale. The public is also more likely to accept a common hazard, e.g., death from drowning or heart disease than death from a dread hazard, e.g., death from radiation. Two other considerations reflect the obligation of society to protect individuals who are especially sensitive to substances in the environment or who are likely to misuse products (affects average people, will be used as intended). In both instances, concern for the vulnerable elements in society are likely to result in government regulations with high costs and small benefits since the number of beneficiaries is few. The final consideration is whether the risk if known with certainty or not known. Again, the public may be more likely to tolerate the risk from coalmining or automobiles than the risk from new technologies such as nuclear reactors where the risk is not known with certainty. This response was also noted by Fischoff [11] in his discussion of the problems facing the risk managers where new technologies such as nuclear reactors were involved.

TABLE 1. Considerations Influencing Safety Judgments

Risk assumed voluntarily	____________	Risk born involuntarily
Effect immediate	____________	Effect delayed
No alternatives available	____________	Many alternatives available
Risk known with certainty	____________	Risk not known
Exposure is an essential	____________	Exposure is a luxury
Encountered occupationally	____________	Encountered non-occupationally
Common hazard	____________	"Dread" hazard
Affects average people	____________	Affects especially sensitive people
Will be used as intended	____________	Likely to be misused
Consequences reversible	____________	Consequences irreversible

Source: Lowrance [21, p. 87].

While Lowrance's array of considerations provide insight into government decision-making, they lack a unified theme. A more compehensive model was developed by Huber [16] in his analysis of the activities of various regulatory agencies such as FDA, EPA and OSHA. Huber reasoned that risk regulation has two goals - to reduce old risks and to exclude new risks. Old risks were those related to familiar activities such as driving a car or coalmining while new risks were those associated with toxic chemicals, nuclear power and artificial food additivies.

Huber commented that the two goals resulted in different legislative commitments and different regulatory procedures. He stated:

> Standard setting is reserved for our 'familiar killers' - risks that society has come to tolerate before the decision to regulate is reached. Screening regulates new risks that loom on the horizon - risks that threaten to undermine the perceived safety of the status quo [16, p. 24].

The use of two different procedures - standard setting and screening - means that old risks are treated more leniently than new risks. According to Huber this double standard reflects the belief of Congress that it is "more costly to regulate old risks than new risks" [16]. For example, it is expensive to clean up our current risk environment. Both producers and consumers are likely to protest the cost of regulation and consumers may object to losing products to which they have become accustomed. In contrast, the exclusion of new technologies and new risky products is less painless since manufacturers and consumers do not have to modify production or consumption patterns. Even more important, consumers are unaware of the lost benefits from the failure to introduce a new technology. Huber [16] noted that the emphasis on screening makes risk regulation a prospective business. Thus, screening occurs before any pattern of harm is defined. Regulation is no longer based on proven harm as in the case of product liability but on unproven safety. In addition, the earlier we regulate the more difficult it is to measure the risks or benefits from the activity in question.

Huber also considered various approaches to risk regulation including risk-benefit analysis and comparative risk assessment. He felt that the information requirements of risk-benefit analysis would place a heavy burden on the introducers of new technologies or new products. In contrast comparative risk assessment is confined to an analysis of risks - both old and new. This approach recognizes that banning or regulating a risky product of substance may increase or decrease societal risk depending on what substitutes are left. At the moment such comparisons are not required. For example, the FDA banned bottles consisting of acrylonitrile because small amounts of the plastic which is carcinogenic could leach into the drink. However, the all- natural glass bottles containing soda under pressure may explode causing injuries. The FDA could not compare the risks from acrylonitrile bottles with those from glass bottles in making its decision.

Other instances have been cited by Whipple [34]. They include the manufacturer's response to a flammability standard which resulted in the use of a chemical additive (TRIS) which was later found to be carcinogenic, and a proposal by the NHTSA to recall intermediate cars for inspection and replacement of defective axle buttons which was later withdrawn when it was found that it entailed higher risks to car drivers due to extra driving for purposes of inspection. Havender [14] analyzed the ban on a grain fumigant - EDB. This product was banned because it was found to induce cancer in laboratory animals. However, two substitutes for EDB - phosphine and methyl bromide - posed more hazards to workers and might not reduce the risks to consumers.

In spite of the appeal of comparative risk assessment Huber noted that several objections might be raised to this procedure. A major one is unmeasurability so that one should regulate according to "maximum conceivable harm." However, if risks cannot be measured it is difficult to see how we can attempt to regulate them. A second reservation deals with incommensurability which means in this case that we should not compare different kinds of risks. Thus, the risk from cancer is more of a "dread" hazard than the risk from a "common" hazard and should be regulated differently. Huber criticizes this objection and points out that fragmentation of risk based on various considerations can only weaken the major goal of any regulatory activity which is to improve our overall risk environment at the lowest possible cost.

CONCLUSION

The previous discussion indicates that there are no simple answers to achieving a risk-free environment. Reliance on individuals to determine what level of risk is acceptable is efficient due to variations in risk acceptance and willingness to pay for risk reduction. Seat belt usage, careful driving behavior, purchase of smoke detectors and preventive health measures (annual medical check-ups, proper diet and exercise) are examples of voluntary risk reduction measures which are left to the discretion of the individual.

Government intervention is more likely to occur when the risk is imposed by others. Thus, involuntary risk is more likely to stimulate intervention than voluntary risk. However, intervention places the burden of risk revaluation on the government as opposed to the individual. Major criteria for evaluating risk include cost-benefit analysis, risk-benefit analysis and comparative risk assessment. All three methods provide different kinds of information to policymakers and have different information requirements. Cost-benefit analysis balances the costs and benefits from a risk reduction strategy while risk-benefit analysis balances the risks and benefits from a product or activity. Comparative risk regulation focuses on the consequences of risk regulation, i.e., will a transfer of risk occur "from one technology to the next or from one risk bearer to another" [34, p. 37]. At the moment there is no indication that any of the three methods is being used systematically by regulatory agencies. This may reflect the information requirements of the various approaches and the uncertainty which surrounds the measurements of risk itself [21].

In view of problems surrounding government regulatory activities, it is heartening to note that other government policies may lead to improvements in health and safety. These policies are related to economic growth. The relationship between health and income has been documented in several studies [3, 13, 33]. Whipple [34] estimated that the longevity gain between 1980 and 1983 due to economic growth was a little greater "than that which would occur by the permanent elimination of all motor vehicle accidents" [34, p. 42]. A decline in economic growth can have the reverse effect. Brenner [3] estimated that the 3 percent deadline in per capita income from 1973 to 1974 resulted in approximately 60,000 excess mortalities. These findings suggest that risk management should consider both the economic growth gains from the introduction of new technologies as well as the accompanying hazards. This type of risk-benefit balancing encompasses both the direct and indirect benefits from new technologies.

Finally the fact that a major part of the responsibility for reducing risk is given to the consumer means that consumer education in areas of health and safety is of the utmost importance. Consumers must be informed of the levels of risk to which they are exposed and methods for reducing risk if they are to make decisions that are optimal for them and for society as a whole. Information failures may pose the same threat to individual liberties as regulation since such failures are likely to stimulate government intervention.

REFERENCES

1. Anderson, D. R. "The National Flood Insurance Program--Problems and Potential," Journal of Risk and Insurance, 41 (1974): 579-599.
2. Bernstein, G. K. Testimony before the U.S. Senate Subcommittee on Housing and Urban Affairs, 92nd Congress, S.2794 Washington, D.C. (1972).
3. Brenner, M. H. Estimating the Effects of Economic Change on National Health and Well-being. U.S. Congress, Joint Economic Committee (June 15, 1984).
4. Clark, C. C. "When Is a Product Reasonably Safe?" Appliance Engineer, 3 (1969): 17-19.
5. Crandall, R. W. and J. D. Graham. "Automobile Safety Regulation and Offsetting Behavior: Some New Empirical Estimates." American Economic Review, 72 (May 1984): 328-331.
6. Dardis, R. "Consumer Risk Response and Consumer Protection: An Economic Analysis of Seat Belt Usage." Journal of Consumer Affairs, 17 (Winter 1983): 245-261.
7. Dardis, R. et al. "Risk-Benefit Analysis and the Determination of Acceptable Risk." Journal of Consumer Affairs, 17 (Summer 1983): 38-50.
8. Dardis, R. "Economic Analysis of Current Issues in Consumer Product Safety." Journal of Consumer Affairs, 14 (Summer 1980): 109-123.
9. Dardis, R. "Ethical Issues in Cost-Benefit Analysis." Proceedings of the 25th Annual Conference of the ACCI, (April 25-28, 1979): 21-26.
10. Dickerson, R. Reed. Product Safety in Household Goods. Indianapolis: Bobbs-Merril Company, 1968.
11. Fischoff, B. "Managing Risk Perceptions." Issues in Science and Technology, 2 (Fall 1985): 83-96.
12. Fischoff, B., P. Slovic, S. Lichtenstein, S. Read and B. Combs. "How Safe is Safe Enough: A Psychometric Study of Attitudes Towards Technological Risks and Benefits." Oregon Research Institute, Eugene, Oregon (1976).
13. Hadley, J. and A. Osei. "Does Income Affect Mortality?" Medical Care, 20 (September 1982): 901.
14. Havender, W. R. "EDB and the Marigold Option." Regulation, 8 (January/February 1984): 13-17.
15. Havender, W. R. "Ruminations on a Rat: Saccharin and Human Risk." Regulation, 3 (March/April 1979): 17-24.
16. Huber, P. "Exorcists and Gatekeepers in Risk Regulation." Regulation, 7 (November/-December 1983): 23-32.
17. Insurance Institute for Highway Safety. Air Bags: A Chronological History of Delay. Washington, D.C. (September 1984).
18. Kates, R. W. "Risk Assessment of Environmental Hazard." SCOPE Report No. 8, International Council of Scientific Unions, Scientific Committee on Problems of the Environment, Paris (1976).
19. Kunreuther, H. Recovery from Natural Disasters: Insurance or Federal Aid? Washington, D.C.: American Enterprise Institute for Public Policy Research (December, 1973).
20. Lave, L. B. The Strategy of Social Regulation. The Brookings Institution, Washington, D.C. (1981).
21. Lowrance, W. H. Of Acceptable Risk. William Kaufman, California (1976).
22. National Academy of Engineering. Perspectives on Benefit-Risk Decision-Making. Washington, D.C. (1972).
23. Okrent, D. "Risk-Benefit Methodology and Application: Some Papers Presented at the Engineering Foundation Workshop." California (1975).
24. Peltzman, S. "The Effects of Automobile Safety Regulations." Journal of Political Economy, 83 (August 1975): 677-725.
25. Rothenberg, J. "Consumer Sovereignty Revisited and the Hospitality of Freedom of Choice." American Economics Review, 52 (May 1962): 269-290.
26. Rowe, W. D. An Anatomy of Risk. New York: John Wiley and Sons, 1977.

27. Slovic, P. "The Psychology of Protective Behavior." Journal of Safety Research, 10 (Summer 1978): 58-68.

28. Slovic, P., B. Fischoff and S. Lichtenstein. "Accident Probabilities and Seat Belt Usage: A Psychological Perspective." Decision Research Report 77-5. Eugene, Oregon (December 1977).

29. Starr, C. "Social Benefit Versus Technological Risk." Science, 165 (1968): 1232-1238.

30. Stremel J. and R. Dardis. "Risk-Benefit Analysis and the Determination of Acceptable Risk." Advances in Consumer Research, 8 (1981): 553-558.

31. Swagler, R. "Consumer Protection Issues: Discussion." Proceedings of the 31st Annual Conference of the ACCI (March 27-30, 1985): 214-215.

32. Viscusi, W. Kip. "Regulating Consumer Product Safety." American Enterprise Institute. Washington, D.C. (1984).

33. Wildavsky, A. "Wealthier is Healthier." Regulation, 4 (January/February 1980): 10-12.

34. Whipple, C. "Redistributing Risk." Regulation, 9 (May/June 1985): 37-44.

35. White, Gilbert. Human Adjustment to Flood. University of Chicago Geography Department, Research Paper No. 29 (1945).

THE VALIDATION OF A CONSUMER CONSERVATION ETHIC:
IDENTIFICATION AND ANALYSIS OF COMPONENTS

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-----------------ABSTRACT-----------------------
An energy future based on conservation will require that consumers subscribe to a consumer Energy Conservation Ethic. This study identifies the factors which are the best predictors of a conservation ethic.[4]

INTRODUCTION

Over the past decade researchers and practitioners with interests in resource conservation have expressed concern about increasing demands and diminishing supply of energy resources. They concluded that energy conservation was the most cost effective means of maintaining an adequate supply of energy. Furthermore, conservation would buy time for research and development of energy altenatives (5, 6, 8, 18).

More recently a reported oil glut, lower gasoline prices, and promised rate decreases for natural gas have contributed to consumers' perception that the energy crisis is past (17). Consumer response to this perception has been to abandon energy conservation and to revert to an energy-intensive lifestyle (3, 9, 16).

This research is based on a previous study which provided a definition of a Consumer Energy Conservation Ethic (CECE) and initiated the assessment of the components of the posited construct. Specifically, the objectives of this research were to:

a. test the validity of the components used to develop the CECE instrument;
b. identify the components which are the best predictors of a conservation ethic; and to
c. refine the CECE instrument to include the smallest number of useful items.

REVIEW OF THE LITERATURE

The Consumer Energy Conservation Ethic has been defined as the attitudes and behaviors held and engaged in by individuals and families which ultimately serve to reduce the overall societal consumption of energy (7). Factors repeatedly linked with an energy conservation ethic include attitudes and sets of behavior related to 1) energy policies, 2) investment in energy-saving features, 3) direct efforts to reduce the use of energy, and 4) ecologically responsible practices which may indirectly effect a decrease in total energy consumption (3, 6, 8, 9, 10, 12, 13, 15, 18).

Energy conservation programs have been based on the assumption that the key to establishing a conservation ethic was to convince consumers that conservation is not coincidental with a lower quality of life (3, 5, 8, 13, 18). Energy education programs aimed at enhancing consumer's attitudes toward conservation have been based on the assumption that consumers who believe that conserving energy is a positive action will act on that belief, adapt their attitudes, change their behavior patterns, and engage in conservation oriented practices. The education efforts have been successful in that consumer attitudes toward energy conservation have become more positive. However, consumer behaviors have not exhibited the same degree of change (3, 4, 10, 15).

By 1983, consumers had adjusted to higher energy prices. Many had already made energy conservation investments in some type of retrofit for their homes. Many believed that government had mismanaged the energy situation and had yet to develop a workable energy policy. Consumer perception of the availability of energy was affected by falling prices of gasoline, fuel oil, and natural gas. Reports of an "energy glut" induced a false feeling of security and consumers reverted to a more energy intensive life-style (17). Energy conservation experts maintained that energy consumption habits directly affected the energy problem and reported that two groups had emerged: conservers and users (6, 18).

THE THEORETICAL MODEL

Researchers working with Nevada data from the USDA Regional Research Project, W-159, "Consequences of Energy Conservation Policies for Western Region Households" used Ajzen and Fishbein's Theory of Reasoned Action (2) to develop a conceptual model of a Consumer Energy Conservation Ethic.

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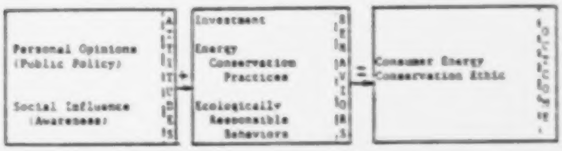
[4] Research completed as part of "Consequences of Energy Conservation Policies for Western Region Households." Financial resources for the project were provided, in part, by USDA Regional Research Project W-159.

According to Ajzen and Fishbein (2), personal and social aspects of attitude are combined to predict intentions and ultimately behavior. However, the theorists emphasize that differentiation must be made between predicted behavior and expected outcomes.

Indeed, outcomes are determined by behavior. The posited conceptual model depicted a Consumer Energy Conservation Ethic (CECE) as an expected outcome, determined by the attitudes and behaviors held and engaged in by individuals and families (7) (Figure 1).

Figure 1. Conceptual Model of the Consumer Energy Conservation Ethic



When the model was tested using regression analysis, the researchers identified four components, represented by specific sets of attitudes and behaviors, which contributed significantly to the explained variance in CECE scores. Those four components were:

1. Attitudes toward public policies for energy conservation (Public Policy Component);

2. Investment in energy saving features (Investment Component);

3. Direct efforts to reduce the use of energy (Energy Conservation Component);

4. Engaging in ecologically responsible practices which indirectly affect energy consumption (Evidence Component).

One factor originally included in the conceptual model, "Awareness of societal participation in energy conservation", did not contribute to the explained variance in CECE scores. Although there were some inconsistencies in assignment of scores across the instrument components, there was evidence that the conceptual model was valid and that further research was warranted (7). The purpose of this study was to assess the four remaining components of the conceptual model in order to determine the minimum number of items to be included in a revised instrument and then to predict group membership on the basis of high or low energy consevation attitudes and behaviors.

THE SAMPLE

The data used in this study were taken from the Nevada portion of the second wave of W-159, "Consequences of Energy Conservation Policies for Western Region Households." The sampling design for the initial data collection (1981) had provided for proportional representation of rural and urban households. The stratified random sample of 1481 Nevada households surveyed for the second wave included a longtitudinal sample of 731 households that had participated in the original study. Data were collected in February, 1983 using Dillman's Total Design Method. Of the 1481 questionnaires mailed, 995 were returned and usable, for a response rate of 67 percent.

Sixty-two percent of the respondents were male and 38 percent were female. Fifty percent had a total family income (before taxes) of more than $25,000. Sixty two percent had some education beyond high school. Children under 18 years of age were present in 28 percent of the households. The majority (58 percent) of households consisted of married couples with no children present (33 percent), or related or unrelated adults living together (25 percent). The average age of the respondents was 48.2 years of age which contributed to the relatively high proportion of respondents indicating that they were retired (22 percent). Eighty percent reported owning the house or condominium in which they lived. The majority of respondents (68 percent) had moved into their present home since 1975, and 35.5 percent reported that their homes had been built since 1975. Although the evidence linking demographic characteristics with energy conservation behavior is inconsistent, the distinctive demographic profile of the sample[5] should be kept in mind when interpreting the findings of this study.

THE MEASUREMENT INSTRUMENT

When the instrument to assess the CECE was developed, scores for each component were assigned on the basis of a Likert-type scale with a range from -2 to +2, including zero. Since summation of scores was used in the analysis of data, non-responses as well as neutral responses were scored as zeros. Summative scores are not affected in either a positive or negative direction by recorded scores of zero. Furthermore, in this study, it was assumed that a non-response was indicative that the respondent either had no opinion or had not engaged in a particular behavior. This assumption is supported by the Theory of Reasoned Action in that stated intentions are believed to be necessary precursors to behavior. When a subject failed to respond it was assumed that a zero was an appropriate indicator of a lack of opinion or behavior.

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[5] The sample could be considered to be distinctive because it was predominantly male, middleaged, higher income, well educated, living in their own home in an adult-only household. Although elements of this demographic profile are distinctive, overall it is similar to those same demographic characteristics of the population of Nevada. The differences are that the average age of the sample is older, a slightly greater proportion of the sample is male, and there are slightly fewer couples with children present than in the general population of Nevada. These discrepancies could be due to the topic addressed by the survey. Energy use, energy policy, and energy investment could be of greater interest to males than females and to older, rather than younger members of society. Another reason for the differences could be that the sample was drawn from telephone directories. This could affect the age of the sample since in Nevada younger persons are more likely to be highly mobile and therefore are less likely to be included in telephone directories.

COMPONENT IDENTIFICATION AND SCORING

Responses to 38 items included in the Nevada Questionnaire, "Energy Directions: A 1983 Western Perspective" were identified as being indicative of the four components to be included in assessing a Consumer Energy Conservation Ethic. Items from each of the four components were scored using a Likert-type scale with a range of scores from -2 to +2. The Public Policy component included eight items (Table 1) that reflected respondents' opinions of energy policy. Response categories were:

Strongly oppose	-2
Oppose	-1
Neutral (or no response)	0
Favor	+1
Strongly favor	+2

Table 1. Statements Included in Public Policy Component.

- Give tax credits for improving home energy efficiency
  (TAXCRED)a
- Provide tax credit for adding home solar heating or cooling
  (TAXSOL)
- Change building codes & mortgage requirements to encourage new Types of energy-saving housing
  (CODMORT)
- Require land developers to have energy plans as part of their developments
  (LANDEV)
- Require utilities to provide regular reports to users on whether energy use is higher or lower than in previous years
  (UTILREP)
- Require utility companies to charge lowest rates to low energy users & high rates to high users
  (UTRATES)
- Require everyone's home to pass an energy audit
  (AUDIT)
- Discourage building homes away from towns & cities to lessen travel by car
  (CLOSTOWN)

[a] Terms in parentheses are code names for the final items to be included in this component (factor).

The second component assessed was respondents attitudes and behaviors in terms of investment in energy-saving features that could be added to a home. The investment component included fourteen items (Table 2) that were scored as follows:

Doesn't exist and no plans to add	-2
Don't know	-1
No response	0
Plan to add or existed	+1
Added	+2

A score of +1 was given when an energy-saving feature already existed. It was assumed that the feature may have influenced the selection of the home, indicating an endorsement of the energy-saving feature.

Table 2. Items Included in the Investment Component

- Weather stripping and/or caulking
  (WEACALK)[a]
- Outside walls insulated
  (WALLINS)
- Four plus inches of ceiling insulation
  (CEILINGS)
- Double panes or storms on most windows
  (OUBWIN)
- Insulated interior window coverings
- Thick floor insulation
- Wood-burning stove
  (STOVE)
- Storm doors on all entrances
  (DOORS)
- Evaporative cooler
- Glass doors on fire place
- Outdoor window shades
- Clock set-back thermostats
- Solar hot water heater
  (SOLWAT)
- Solar heating
  (SOLHEAT)

[a] Terms in parentheses are code names for the final items to be included in this component (factor).

The third component measured respondents' efforts to cut back on their household energy consumption. Six items were included in this component (Table 3). Scores for items in the energy conservation component were:

Don't do and no plans	-2
Don't know	-1
No response	0
Plan to do	+1
Do now	+2

Table 3. Items Included in the Energy Conservation Component.

- Open and close window coverings to take advantage of temperature differences
- Close off some rooms
- Have hot water heater set at 120°F (or less)
- In winter, set thermostat at 65°F or lower
- In summer, set thermostat at 78° or higher
- Change use of rooms to take advantage of sun warmed or shaded areas.

The final component assessed whether or not respondents engaged in selected practices which represented ecologically responsible behavior. For the evidence component, ten practices were listed and respondents were asked to indicate the frequency with which they engaged in each practice. Assigned scores were:

Never do it and don't plan to	-2
Plan to do within next 2 years	-1
No response	0
Sometimes do it	+1
Always do it	+2

Ecologically responsible behaviors were further divided into three groups on the basis of the connection of behaviors to direct conservation of resources:

1. Those practices identified in the literature as being evidence of ecologically responsible behavior (Direct Evidence)

2. Those practices intuitively identified as being indirectly indicative of ecologically responsible behavior (Indirect Evidence); and

3. A practice that is believed to be supportive of ecologically responsible behavior (Supportive Evidence). (Table 4)

Table 4. Ecologically Responsible Practices Included in Evidence Components.

DIRECT EVIDENCE

- Recycle cans (CYLCANS)[a]
- Dry laundry on clothesline (DRYOUT)
- Walk or ride bicycle on errands (RIDBIC)
- Install plastic over windows in winter (PLASWIN)
- Participate in a car pool or ride bus (CARPOOL)

INDIRECT EVIDENCE

- Keep records of home energy use
- Make furniture or clothing for self/family (FURCLO)
- Buy or trade used clothing (TRCLOTH)
- Work at home as part of salaried job

SUPPORTIVE EVIDENCE

- Contribute to ecologically-oriented organizations

[a] Terms in parentheses are code names for the final items to be included in this component (factor).

RESEARCH DESIGN

The purpose of the study was to test the validity of the components used to devise the CECE instrument, to identify the components which are the best predictors of a conservation ethic, and to refine the CECE instrument to include the smallest number of useful items. Factor analysis was used to assess the construct validity of the components and determine the minimum number of items in each component. Regressed factor scores for each of the components were then used as predictor variables in a stepwise discriminant analysis to predict group membership on the basis of high or low CECE scores. These groups were formed by summing all 38 items for each respondent. Respondents with summed scores one standard deviation below the mean were assigned to group one, "energy users", and respondents with summed scores one standard deviation above the mean were assigned to group two, "energy conservers". Order of entry of each predictor variable (component) into the discriminant function was indicative of the relative importance of that component to the overall prediction of a consumer energy conservation ethic.

STATISTICAL ANALYSIS

Factor extraction with varimax rotation was performed on all 38 items using the scores of the 995 respondents. The cases used in the analysis were evaluated for outliers, absence of multicollinearity, and factorability of the correlation matrices. No violation of the assumptions was found. Four well-defined factors were identified as distinguished by the Scree test. The factors were internally consistent and well defined by the variables. Loadings of variables on factors, communalities, and percents of variance are presented in Table 5. Variables have been ordered and grouped by the size of the loadings for ease of interpretation. The cutoff point for including items in a factor was a loading of .30. Loading values under .30 have been omitted in Table 5.

Table 5. Factor Loadings, Communalities (h^2), and Percents of Variance for Twenty-Three Items on Four Factors.

Item	Factor 1	Factor 2	Factor 3	Factor 4	h2
AUDIT	.4759				.3424
TAXCRED	.6559				.7549
TAXSOL	.6447				.6892
UTRATES	.5269				.3331
CLOSTOWN	.4234				.4293
CODMORT	.7193				.5266
UTILREP	.5325				.3034
LANDEV	.7038				.5396
OUBWIN		.6129			.4303
WEACAKL		.6338			.4639
CEILINGS		.5660			.3712
WALLINS		.3418			.6572
DOORS		.5414			.3462
STOVE		.40245			.3390
CYLCANS			.3563		.1901
TRCLOTH			.4961		.2795
RIDBIC			.3261		.1930
FURCLO			.4945		.2954
CARPOOL			.3567		.2042
PLASWIN			.4548		.2694
DRYOUT			.3847		.2102
SOLWAT				.8033	.7038
SOLHEAT				.82088	.7176
Label	POLICY	INVEST	EVIDENCE	SOLAR	
Percent variance	25.2	22.0	13.1	10.4	
Eigenvalue	3.376	2.948	1.775	1.397	

Factor 1 includes the eight items in the public policy component which confirms both the validity of this element and the importance of including all eight items in measuring the construct. Factor 1 accounted for 25.2 percent of the variance in the 38 times, with an eigenvalue of 3.376.

Items included in factor 2 were from the investment component. Only six of the fourteen investment variables had loadings above .30. Of the remaining eight variables in the investment component, six did not contribute to the solution, and two emerged as a separate factor: the items pertaining to investment in solar energy devices. The validity of the investment component was supported, with the number of items necessary to measure this element reduced from fourteen to six variables. Factor 2 accounted for 22.0 percent of the item variance, with an eigenvalue of 2.948.

Factor 3 consisted of items from the evidence component. Seven of the ten evidence variables were included in the factor. The component was supported and included the Direct Evidence and Indirect Evidence variables, but not the Supportive Evidence variable. Factor 3 accounted for 13.1 percent of the total item variance, with an eigenvalue of 1.755.

The fourth factor included two variables related to investment in solar heat and solar hot water heaters. This factor was examined carefully because it included only two variables, and because it was the final true factor identified by the Scree test. Three criteria influenced the decision to accept the factor: the results of the Scree test, the magnitude of the eigenvalue (1.397), and the high correlation of the variables with each other (.71) and low correlation of the variables with the other 36 variables (<.25). This factor accounted for 10.4 percent of the item variance, and the four factors, in combination, accounted for 70.8 percent of the total variance in the 38 items.

The second step in the analysis was to sum the scores on the 38 items for all 995 cases in the study and identify the scores which were one standard deviation above and below the mean. The summed scores ranged from -68 to +45; the mean score was -16.71; and the standard deviation was 15.11. Respondents with summed scores less than -31 were assigned to group one (energy users) and those with summed scores greater than -2 were assigned to group 2 (energy conservers). This analysis produced two groups for the discriminant analysis: group one (N=152) had the lowest total CECE scores, and group two (N=149) had the highest CECE scores. Regressed factor scores generated for each case during the factor analysis were then used to predict group membership in the stepwise discriminant analysis.

The discriminant analysis was used to determine which CECE component (factor) was the best predictor for respondents with the highest and lowest total energy scores. The order of entry of the other factors then revealed how much each factor contributed, additionally, to the total variance accounted for by the discriminant function. The cases used in the stepwise discriminant analysis were evaluated for assumptions of linearity, normality, multicollinearity, singularity, and homogeneity of variance-covariance matrices. No violation of the assumptions was found.

Mahalonobis distance was used to direct the stepping procedure. One discriminant function was calculated with a combined X^2 (4)=512.71, p=.0000. Correlations between predictor variables and discriminant function are presented in Table 6. The primary variable distinguishing between respondents with low and high CECE scores was factor three, the evidence component. The mean score for this factor was -.695 for respondents in group one (users) and .820 for respondents in group two (conservers).

The second variable to enter was factor two, the investment component. Factor four, the solar energy component entered next, and factor three, the public policy component entered last. Means for these three factors are shown in Table 6.

Table 6. Four Components of CECE as Predictors of Respondents with Highest and Lowest Scores: Results of Discriminant Analysis

Predictor Variable (PV)	Correlation Coefficient (PV with Disc Function)	Univar F (1,299)	Factor Mean Scores Users	Conserve.
Evidence	.50	342.012	-0.695	0.820
Investment	.49	292.409	-0.782	0.676
Solar	.21	54.501	-0.288	0.466
Public Policy	.14	34.91	-0.258	0.294

Canonical R=.91
Eigenvalue=4.620
Also referred to as Components or Factors

A classification function was also calculated for each group. The two classification functions were then used to predict group membership for each respondent. A classification matrix for actual and predicted group membership is presented in Table 7. Accuracy in prediction was 100 percent for both groups.

Table 7. Actual and Predicted Group Membership for Respondents with Highest and Lowest Energy Scores

Actual Group Membership	Number of Cases	Predicted Group Membership Group 1 (Users)	Group 2 (Conservers)
Group 1 (Users)	152	152 (100%)	0
Group 2 (Conservers)	149	0	149 (100%)

CONCLUSIONS

Three of the four components of the intital Consumer Energy Conservation Ethic construct were validated by the analyses. The public policy, investment, and evidence components were supported but the energy conservation component (a fifth factor identified by factor analysis) did not contribute to the solution. The finding that the solar investment items formed a fourth component (or factor) orthogonal to, rather than a part of the investment component was unexpected. A third deviation from the original conceptualization of the construct was the finding that the direct, indirect, and supportive evidence items were actually one factor which included direct and indirect evidence items, but not the supportive evidence item.

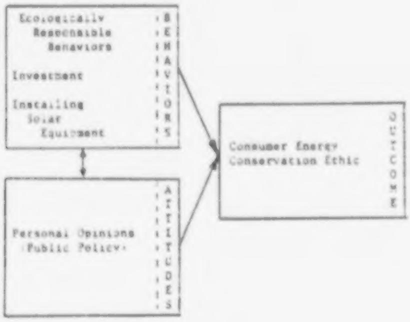
Using factor analysis, the number of items in the CECE instrument was reduced from 38 items to 23 items, with 100 percent of the predictive power of the instrument retained. The results of the discriminant analysis indicate that evidence items are the best predictors of a conservation ethic, with investment, solar investment, and public policy items adding to prediction in the order given.

The validated components (or factors) that contribute to a Consumer Energy Conservation Ethic are:

- Engaging in ecologically responsible behavior (Evidence Component);
- Investing in energy saving devices (other than solar) (Investment Component);
- Investing in solar devices (Solar Component): and
- Having a favorable attitude toward public policies for energy conservation (Public Policy Component).

The results of the validation study lead to the conclusion that the conceptual model of the Consumer Energy conservation Ethic should be revised to reflect the validated components which contribute to a CECE. The adapted model is presented in Figure 2.

Figure 2. Adapted Conceptual Model of the Consumer Energy Conservation Ethic


Ecologically Responsible Behaviors
Investment
Installing Solar Equipment
BEHAVIORS
Personal Opinions (Public Policy)
ATTITUDES
Consumer Energy Conservation Ethic
OUTCOME

RECOMMENDATIONS

The results of this study contribute to the confirmation of the validity of the CECE construct. In future research the refined instrument can be used for hypothesis testing with CECE scores as the dependent variable. Earlier studies have shown inconsistent results when demographics have been used to predict the practice of conservation behaviors (3). CECE scores (which combine assessment of behaviors, investments, and attitudes), should provide more reliable estimates of relationships with demographic variables.

Professionals with responsibility for developing energy conservation educational programs can use the results of these analyses in making decisions about program content. Furthermore, the revised instrument can be used as a pretest to assess whether or not program participants subscribe to a Consumer Energy Conservation Ethic. A delayed, post program assessment would provide information regarding changes in attitudes, behaviors, and investments as well as an assessment of program effectiveness.

There is no "quick-fix" to the energy problem. Fostering and promoting a Consumer Energy Conservation Ethic will help buy the time needed to invent and introduce additional sources of energy into our distribution network. Continued practice of a Conservation Ethic will provide a means of achieving the goal of improving the economic well-being of individuals and families without sacrificing quality of life.

REFERENCES

1. Anderson, M.A., Iams, D., Jones, J.C., Chatelain, L.B., Dillman, D., Anderson, D.. *Energy Directions for the United States: A Western Perspective Two Years Later*. (Draft Copy), October 6, 1984.

2. Ajzen, I., Fishbein, M., *Understanding Attitudes and Predicting Social Behavior*. Englewood Cliffs, N. J.: Prentice-Hall, Inc., 1980.

3. Craig, C.S. "How Predispositions and Discretion Influence Electricity Consumption." *Journal of Energy and Development*, 8 (Spring, 1983): 247-265.

4. Fox, K.F., Kotler, P. "The Marketing of Social Causes: The First 10 Years." *Journal of Marketing*, 44 (Fall, 1980): 24-33.

5. Gibbons, J.H., Chandler, W.U. *Energy: The Conservation Revolution*. New York: The Plenum Press, 1981.

6. Gore, R. "Conservation: Can We Live Better on Less?" Garrett, W.E., Judge, J. (Eds), *Energy: Facing up to the Problem, Getting Down to Solutions*. Washington D.C.: National Geographic Society, 1981.

7. Haldeman, V. and Tripple, P. "Defining and Measuring A Consumer Conservation Ethic." Ruth Berry, (Ed), *Refereed Proceedings of the 25th Annual Conference of the Western Region Home Management Family Economics Educators*. Scottsdale, AZ: 1985 (in press).

8. Hooker, C.A., MacDonald, R., VanHurst, R., Victor, P. *Energy and the Quality of Life: Understanding Energy Policy*. Toronto: The University of Toronto Press, 1981.

9. Kantola, S.J., Syme, G.J., Campbell, N.A. "Cognitive Dissonance and Energy Conservation. "*Journal of Applied Psychology*, 69 (August, 1984): 416-421.

10. McClelland, L., Cantler, R.J. "Psychological Research on Energy Conservation: Context, Approaches, Methods." Baum, A., Singer, J.E. (Eds), *Energy: Psychological Perspectives*. Hillsdale, N.J.: Lawrence Erlbaum Associates, Inc. 1981.

11. Mikitka, K.F. "Promoting Recycling: Supermarkets as Environmental Classrooms." *Illinois Teacher of Home Economics*, XXVII (March/April, 1985): 160-163.

12. Nemetz, P,N., Hankey, M. *Economic Incentives for Energy Conservation*. New York: John Wiley & Sons, 1984.

13. Russell, J.W., *Economic Disincentive for Energy Conservation*. Cambridge, Mass.: Ballinger Publishing Company, 1979.

14. Ryan, L.A., Weathers, D., Walker, J. *Community Services Baseline Report*. Carson City, NV.: State Office of Community Services, 1982.

15. Seligman, C., Becker, L.J., Darley, J.M. "Encouraging Residential Energy Conservation Through Feedback." Baum, A., Singer, J.E. (Eds), *Energy: Psychological Perspectives*. Hillsdale, N.J.: Lawrence Erlbaum Associates, Inc. 1981.

16. Taylor, P. "Barriers to Recycling." *Resource Recycling*, 2 (March/April, 1983): 15.

17. Taylor, R.E., Burrough, B. "Energy Upheaval: Scheduled Rule Switch Would Aid Gas Users But Imperil Pipelines." *Wall Street Journal*, Tuesday, October 8, 1985, p.1.

18. Yergin, D. "Conservation: The Key Energy Source." Stobaugh, R., Yergin, D. (Eds), *Energy Future*. New York: Random House, 1979.

CONSUMER ACCEPTANCE OF INNOVATIONS: CONTROL OF ACCEPTANCE VS. DEGREE OF BEHAVIORAL CHANGE

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ABSTRACT

Consumer acceptance of innovations are dependent upon numerous factors. Researchers have focused on both the characteristics of innovations and consumers in attempting to explain adoptions. This paper specifically looks at the relationship of the degree of control consumers have in accepting an innovation and the amount of behavior change they must make to use the new product/service. The supposition is that consumers will be more negative toward adoptions they are forced to use even if there is little required behavior change. The thrust of the paper is more the negative or positive opinion of an innovation and not only the rate of adoption of the innovation.

Why do consumers readily accept some innovations but reject others? This question has stimulated a great deal of research over the past 30 years. Two good reviews of these past efforts are contained in Gatignon and Robertson [1] and Rogers [8]. But looking anew at this question is still important given the changes at the retail checkout and consumer reaction to this change.

During the last decade, supermarkets have replaced registers where clerks manually enter prices with scanners where a bar code is "read" and the price is looked up in the store computer. From the standpoint of the retailer, this has eliminated the need to place prices on each package. Consumers, however, have expressed very negative opinions toward item price removal [3, 4, 6]. On the other hand, they have been accepting of the basic technology, scanner checkouts, and of technology in general [5]. This negative reaction to item price removal (IPR) has lead some states and cities to require item pricing. Opposition to IPR is not limited to the United States [11].

Why have consumers not accepted IPR? A simple and partially accurate answer is that it is not in the best interest of the consumer. Harrell and his colleagues [2] and Ziethaml [12] found that consumers had lower price awareness and recall in an IPR environment. But there is more to the issue than simply self interest.

This paper is based on the supposition that consumer acceptance of innovations is partially related to the amount of individual control an individual has in accepting or rejecting the change and in the amount of behavior change necessary to use the innovation. As a point of reference, innovations in other fields will be used as comparisons to item price removal. Some of the new products and services which will be included are home computers, at-home shopping, debit cards, and new types of financial accounts like NOWs and IRAs.

Innovations: Control

Innovations can be classed according to the amount of control an individual has in their use and adoption. Rogers [8] suggested three levels of control: optional, collective, and authority. With optional decisions, individuals can accept or reject an innovation independent of other people. Collective decisions to adopt are based on a consensus of group members. The individual in the final analysis will have to adopt if required by law. But in some societies the individual may be able to influence the decision of the group. Finally, with authority based decisions, the individual has no control and must follow the dictates of a leader.

Retail checkout innovations from a customer perspective were all authority decisions. To the extent that a person wanted to shop at a specific store they would have to accept the scanner checkouts and, if inplemented along with scanners, IPR. Of course, the consumer could switch stores, but what if the price marking stores were not accessible (especially true for low income or elderly shoppers)? Also, what if all the chains in a market removed item prices?

Home computer based changes, mail order buying, new savings accounts, and money market mutual funds, on the other hand, are all examples of optional or individually controlled adoption decisions. These are graphed on the horizontal axis in the Figure on the next page.

Innovations: Behavior Change

Robertson [7] classed innovations according to the degree of behavior change necessary to use or adopt the change. Innovations could be continuous, requiring little behavior change, dynamically continuous, requiring moderate changes, and discontinuous, requiring totally new behavior. Many of the retail changes were continuous. This is especially true for point of sale systems, store security systems, scanners without IPR, and new types of savings accounts. Others tended to be dynamically continuous (money market mutual funds, most mail order retailing and scanners with IPR), and discontinuous (debit cards and automated teller machines [ATM] and computer based home banking and buying). These are graphed on the vertical axis of the Figure.

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The degree of behavior change may also be influenced by the attributes of the innovations. Rogers suggested innovations have the following five attributes: 1) relative advantage, 2) compatibility, 3) complexity, 4) trailability, and 5) observability [8].

In the context of this paper if an innovation provides an advantage to the adopter they will more likely adopt the innovation. From this perspective consumers might accept scanner checkouts since they would receive a receipt containing more information. However, they would reject IPR because there was no advantage to the consumer. In fact, because they had to change behavior with no resulting reward, there were disadvantages.

The more compatible an innovation is to existing values, attitudes, and behavior, the more readily it will be accepted. Item price removal required new price checking behavior of the shopper. For example, store price comparisons between frozen and canned vegetables were hindered unless the shopper memorized the price of the item when she/he was in the frozen/canned food section. The price was no longer on the item in the shopping cart. Also longitudinal price comparisons between in stock and newly purchased items were only possible if the shopper saved his/her prior receipts. Of course the consumer could mark their own prices on items, but this also required new behavior on the part of the consumer. Again, IPR would have a higher likelihood of being rejected by store shoppers who consistently performed cross-sectional and longitudinal price comparisons since new behaviors were required to accomplish these tasks.

Did IPR make the consumer's life more complex? If they performed the price comparisons and self-price marking mentioned in the previous paragraph, the answer is yes. Then these shoppers would be opposed to IPR.

On the positive side, IPR's trialability was high. A consumer could shop in a price removed environment once or twice and if he/she disliked it, could return to a price-on store. That is, if not all the stores in a market removed their prices.

Were the results of the innovation observable? Yes. The only problem was that the negative results were observable since there were few, if any, positive results that could be observed.

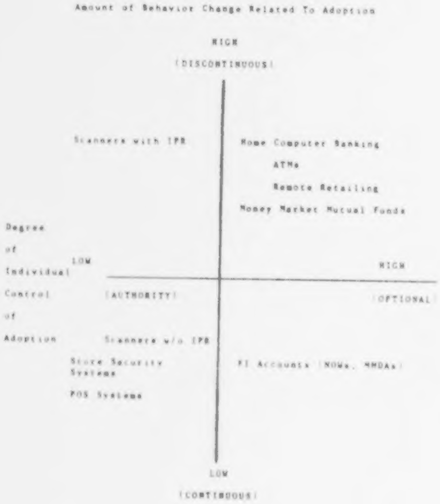
The preceding discussion leads to the conclusion that not only did IPR require new behaviors, but there were few, if any, positive advantages to changing prior behaviors. Again the changes in behavior for most shoppers might be relatively minor, and in fact if they were not price-oriented shoppers there may have been no change. However, for all shoppers there appears to be no relative advantage to IPR. Thus even if shoppers made small changes in behavior they could have very negative reactions to IPR since they saw no net gain from the innovation.

Innovations: Control and Behavior Change Combined

The Figure resulting from the graphing of these two dimensions has four quadrants. The southeast quadrant contains those innovations that require the least behavior change and where the consumer has the most control over adoptions. Savings and checking accounts that are slight modifications of previous offerings fit here. Both NOW accounts (interest paying checking and money market deposit accounts [MMDAs]) were very similar in use to current checking and passbook accounts. Writing checks on and depositing money to these new accounts was virtually the same as with the previous services. Consumers were also free to choose not to use these accounts. In fact, many financial institutions probably preferred for their customers to keep their deposits in non-interest paying checking and low yield passbooks.

FIGURE

MATRIX OF BEHAVIOR CHANGE AND INDIVIDUAL CONTROL



The southwest quadrant contains those innovations where consumers have little control over adoption and use but the changes have little impact on their behavior. The changes at the retail checkstand best fit here. In stores where checkers both scanned and bagged groceries in one operation, consumers might change how they placed items on the belt or in their cart (heavy, bulky items first; light, breakable ones later). But, in most situations there needed to be little change in behavior when scanners were installed. Store security systems, especially hanging tags on garments, may have been inconvenient, but for consumers who did not shoplift, little behavioral change was necessary. Finally, price reading wands in department stores were put in place by management and not the consumer, but again, little change in shopper behavior was necessary.

The northeast quadrant contains those changes that the consumer has control over adopting but require major changes in behavior. Home computer retailing, debit cards, and ATMs are sited here. Taking debit cards and ATMs as an example, consumers did have to change their behavior. They now had to use plastic to access their account. They used machines and not humans to interact with the financial institution. They may have had to go to a different location, but they could have 24-hour, seven- day-a-week access to their account. Consumers did have the option of not using the system, although some banks were encouraging depositors to use machines by charging to use tellers and providing ATM services at no charge.

The northwest quadrant contains those innovations/changes consumers are least likely to accept. Here they must change their behavior and have little control over the decision to adopt the change. Item price removal (IPR) in supermarkets may best illustrate this type of change. IPR requires behavioral changes. Consumers must now obtain and use price information from different sources. For example, without individual consumer price marking, price checking of the store shelf listed price and computer stored prices at checkout is impossible without an accurate memory or self-price marking. Consumers also have little or no control over whether an individual store or chain marks item prices. They do have a choice to shop at a different chain but what if all chains remove prices? (This is the case in certain markets in the United States.)

Thus, even though ATMs or home computers might require greater behavioral changes than IPR environments, consumers who use the first two innovations are more willing to accept them simply because they have a choice to use or reject them. This may explain why there has been more organized resistance to IPR than to debit cards.

IMPLICATIONS

Given the preceding discussion, what are the implications for consumer groups? Consumer groups' most important contributions as consumer representatives may be in the northwest quadrant. The area where consumers have the least control over the decision to use or not use an innovation that requires major changes in their behavior. Here consumers are placed in a position of having no choice in making behavioral changes. In this situation they may require more active representation than in those cases where they have freedom to choose or reject innovations or where innovations have little impact on their behavior.

This is not to imply that consumer groups have no role with innovations in the other quadrants. Consumers who do freely adopt the changes in the northeast quadrant still may need a voice in the development of regulation. Such was the case in developing procedures for using (and losing) debit cards and controlled access to ATMs.

Even in the southeast quadrant where change is personally controlled and little change in behavior is required, there may be some unexpected consequences of the minor changes. For example, the deregulation of checking and savings accounts lead to higher rates of interest on deposits. However, at least partially due to this reason, this lead financial institutions to charge more for services and in many cases to discourage low balance customers. Unfortunately, even if the financial institutions did not need these customers, consumers needed to use the financial institution services. Again consumer groups are providing a voice for these people. In reality the situation for low income consumers was one of where they were forced to change their financial transaction behavior, so for them banking deregulation was really in the northwest quadrant.

In conclusion, consumers will be most resistant to those changes that are imposed on them and require major changes in their behavior. Consumer group representation is most needed in this situation. Consumers need a voice to either require that the changes be at the discretion of the user and not the provider or to temper the amount or type of behavioral change required.

REFERENCES

1. Gatignon, Hubert and Robertson, Thomas S. "A Propositional Inventory for New Research." Journal of Consumer Research, 11:849-867.

2. Harrell, Gilbert D., Hutt, Michael D. and Allen, John W. Universal Product Code: Price Removal and Consumer Behavior in Supermarkets. East Lansing, Michigan: Graduate School of Business Administration, Michigan State University, 1976.

3. Harris, Brian F. and Mills, Michael K. "The Impact of Item Price Removal in Scanner Supermarkets: A Survey Study of Los Angeles Shoppers." Journal of Consumer Affairs, 16:362-383.

4. Langrehr, F. W. and Langrehr, V. B. "Consumer Acceptance of Item Price Removal: A Case Study of Milwaukee Shoppers." Journal of Consumer Affairs, 17:149-171.

5. Langrehr, V.B. and Langrehr, F. W. "Consumer Reactions to Technology in General and to a Specific Technological Innovation: Supermarket Checkout Scanners." Journal of Consumer Policy, 7:457-469.

6. Pommer, Michael D., Berkowitz, Eric N. and Walton, John R. "UPC Scanning: An Assessment of Shopper Response to Technological Change." Journal of Retailing, 56:25-44.

7. Robertson, Thomas S. "The Process of Innovation and the Diffusion of Innovation." Journal of Marketing, 31:14-19.

8. Rogers, Everett M. Diffusion of Innovations. 3rd ed. New York: The Free Press, 1983.

9. _______________ and Shoemaker, F. Floyd. Communication of Innovations. 2nd ed. New York: Freepress, 1971.

10. Russo, J. Edward, Krieser, Gene, and Miyastho, Sally. "An Effective Display of Unit Price Information." Journal of Marketing, 39:11-19.

11. Shaw, Robin N. and Aitchison, John L. "Consumer Behavior and New Technology: An Analysis of Supermarket Scanning and Item Price-Marking." Theme Papers - Proceedings of the Management Educators′ Conference. Brisbane, Australia, 104-128.

12. Ziethaml, Valarie, "Consumer Response to In-Store Price Information Environments." Journal of Consumer Research, 8:357-369.

CONTRIBUTION TO DISCUSSION OF PAPERS ON CONSUMER BEHAVIOR

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ABSTRACT

The three papers on nominally different themes are in fact complementary, the first and third providing important reviews, the second offering a new inquiry.

Before making detailed comments, there are basic ideas to consider.

Energy, the price and supply of which has been at the center of two, or even three recent financial crises, is far wider than oil or gas. The papers show that coal and nuclear energy are also essential, but we have not formulated consumer attitudes to all of this. However, simple claims for Consumer Information, Good Quality, and Value for Money may offer a very inadequate guide.

Do consumers believe that access to all energy supplies--coal, oil, natural gas, solar, and nuclear--can be regulated by the marketplace, by a simple money criteria or are there other questions? The need to conserve for future generations? The need to make "better" use of petro-chemicals rather than just burning them? The need to consider risk during production and use?

Considering energy alone, there are considerations of ecological damage, of physical risk of extractions for coal and oil, of consumer and public risk with nuclear energy. So a defined attitude as well as a reasoned response is needed to comprehend these issues as consumer behavior.

Dardis shows that the public and individuals are less tolerant of imposed risks, and Langrehr of imposed conditions of working and living. There is a real demand for "freedom."

Where there are real dangers, as with nuclear power, coal mining, or food additives, it is inevitable that Government intervention occurs, or is demanded by citizens, their public representatives or by State and Federal Agencies. This is partly real resentment, a resistance to pressure, but in part too, a media action which may exaggerate the dangers of the developing technologies.

Less sensationally, in the case of Item Price Removal, the change may come by subterfuge, in the guise of advantage at the check-out. In either case, if the development happens without experiment or consultation or the provision of full information--through either subterfuge or authoritarian edict--it is probable that resistance will occur. The threatened tribe will always close ranks against a perceived threat. Consumers are no different.

Taking the papers: considering Dardis, speaking as a European, I must state that in some areas, the results have differed from those obtained in American experience.

In the United Kingdom and in Scandinavia, smoking is much less acceptable socially than in the US. In the London Underground, the subway, it is forbidden, and it appears that enforcement is quite simple. This has now been effective for nearly two years. There is little disagreement. It has been imposed, as a twelve month experiment and accepted and continued it seems by consent.

The question of alcohol is more difficult. There is a wide concern that drunken driving is dangerous and morally wrong. Control is almost a disaster. UK campaigning has had little positive effect. Sometimes negative. The Scandinavians are ferocious and restrictive. So too are the Czechs. It appears however that drinking alcohol remains a socially acceptable practice, and even the efforts of Mr. Gorbachev are of little avail.

So social acceptability may be an issue.

Information is however also a matter. Heating systems are needed in housing for old persons. However, it is common experience that the same old persons fail to use the heating, or underuse it, for fear of over-spending. And so we have hypothermia.

The fire-proofing of fabrics for furniture similarly is both difficult to establish, enforce, or control. Only successive fires, themselves quite lethal in old persons' homes due to cigarette combustion, resulted in any serious action.

The FDA action on additives is a similar story, cost, side-effects are considered but public outcry is effective, even if misinformed.

It may be that with technological advance the potential (or actual) benefits are never considered, but only the detriment is costed.

I live in a city where the main drainage system is 100 years old. It must soon be replaced. The benefits of that century are clear. Could the system have been afforded at all if it had been costed? It was accepted for the "public good." But it is now necessary to subject the "public good" to a cost benefit analysis.

So I conclude that Dardis is developing important themes, to which the answers are difficult.

However, the effect of public action, main drainage, economic growth, and so forth may have consequences so much greater than those arising from specific control. For example, on drunken driving and the use of additives, the scope of Government action should always be considered relevant to the consumer.

Halderman and collaborators have made a specific technical study. I have no quarrel with the techniques employed. The sample seemed non-typical, but it may well be correct in the West, so I do not wish to comment technically.

My comments are firstly that the result is as expected, and reflect the first paper.

More work should be done. An energy ethic needs to comprehend both total consumption and source.

Whilst household consumption may be controlled, consumers have been much more inclined to "splurge" energy on motor vehicles. Now that the crisis is past, there is less enthusiasm for the compact car; UK studies show motorists to be uninterested in economic driving to reduce gas consumption; public transportation systems, which are much more economic of energy consumption, receive limited support. Is this worth study?

No doubt a wide range of new or alternative fuels may be used and a study of their acceptability is also very important.

Langrehr, in handling innovation, handles problems with which we are all familiar.

Item Price Removal (IPR) is an international issue. So too are new electronic devices and supermarkets. There is a clear conflict. Lack of Price Marking reduces comprehension, but scanners provide more information and some protection against fraud by check-out staff. But it is impersonal and this is the source of resentment. However, whilst the concept of the matrix in the figures is good, it is much more difficult to place procedures within it.

The spread of financial scandal immediately increases consumer distrust of financial institutions and de-regulation may increase the number and kind of financial instruments offered. I come from the most sophisticated financial marketplace and would counter acceptance of any new financial instrument without consumer information and education. At home, "Money Which?" is a successful operation because it offers impartial information.

Conclusions

1. None of these papers reduces the need for improved consumer information.

2. Representation is always needed, even where seemingly easy innovations are proposed.

3. We need to study consumer needs far more.

4. There is a basis for studies of consumer ethics.

RETIREES AS VOLUNTEER CONSUMER EDUCATORS

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ABSTRACT

Volunteer retirees were selected to provide in-service consumer economics education to the staff members of agencies serving the elderly. Six consumer economics topics were selected as the foci of twenty-six hours of training for the volunteers. A statistically significant increase in mean scores was achieved for the pre- and post-tests used to evaluate the training of the volunteers. Twenty-five in-service programs were conducted by the volunteers. The average scores on the evaluation items completed by the sponsoring agencies consistently exceeded four on a five-point scale. Those wishing to develop similar programs are advised to put special emphasis on developing volunteers' presentation skills as well as consumer economics content information.

INTRODUCTION

The quality and quantity of consumer education has long been a concern of consumer educators. Much of this concern has focused on consumer education within the schools and in other formalized settings. Yet, consumer education efforts in such settings reach only a small segment of the population. Among those who are not reached by formalized consumer education are the elderly. The elderly are particularly in need of consumer education because of: (a) the lack of consumer education in the schools prior to 1930, (b) the recent, rapid changes in the marketplace due to deregulation, and (c) the susceptibility of the elderly to fraudulent schemes and scams.

The elderly represent a large and growing proportion of the population. In 1982, 11 percent of the American public was age 65 and over and this percentage is predicted to grow to 19 percent by 2025, primarily due to birthrate increases after World Wars I and II and to increased longevity [1, p. 20]. This predicted increase in the percentage of elderly will be particularly high among the most aged. These individuals will be most likely to have low incomes, [2, p. 9] and therefore, be especially at risk.

Consumer education/information efforts have both benefits and costs. Among the benefits is the more efficient use of limited resources. Consumer education/information also serves as a form of consumer protection as the recipients are better able to function in the marketplace [3, p. 88]. However, these benefits are achieved at considerable cost. There are costs to the recipients in terms of their time and money. Also, there are the costs to the providers of the education/information.

In the absence of an on-going, established delivery system such as the schools, these costs could be even higher due to the start-up costs of establishing such a delivery system. Yet, three resources can be used to defray the costs of providing consumer education/information to the elderly. The first two resources are the assets of time and the pool of skills that retirees have developed over a lifetime of productive work. The third resource is the infrastructure of helping agencies serving the elderly. Examples are such programs as meal on wheels, local senior citizen organizations, senior citizen housing and nursing care facilities, and social service agencies.

THE GERONTOLOGY EXTENSION PROJECT

In an effort to tap these resources the Gerontology Extension Project (GEP) was established at the University of Kentucky. The project consisted of two phases. The first phase involved training forty-three retired volunteers in one of five specialty areas (home health care/ nursing, consumer economics, drugs and medication practices, coping skills and adaptation, and nutrition and food preparation). GEP staff solicited volunteers from among the University's Emeritus Corps (retired professors and administrators), from similar programs at other Kentucky universities, and from the University's Donovan Senior Citizen Fellowship program. These combined sources provided a potential volunteer pool numbering several hundred. The University's Council on Aging provided access to other groups of potential volunteers as well. Applicants were solicited from the pool of volunteers and 36 plus 10 alternates were ultimately selected for training. The training consisted of six, 4-hour sessions in a specialty area. Volunteers also participated in a two-hour session focusing on presentation skills.

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In the consumer economics specialty area nine volunteers received training from the authors in the following areas: (1) frauds and consumer assistance, (2) money management, (3) insurance, (4) investing during retirement, (5) housing for the elderly, and (6) social programs and agencies. In addition, each volunteer prepared lesson plans for two of these topics. These were duplicated and distributed to the other volunteers so that each would have a repertoire from which to choose when called upon to do in-service training. Evaluation of the volunteers' knowledge in the specialty areas was based on identical pre- and post-tests. The test focused on basic knowledge related to the six topics of the consumer economics specialty area.

The second phase began after completion of the training. During this phase, the volunteers served as a pool of resource people to provide in-service training throughout the state to staff members of social service agencies helping the elderly. The information and awareness could then be passed on to the clients of the agencies as they received the services of the agency. Evaluation of the volunteers' performance during the in-service activities was based on feedback from staff members of the social service agencies receiving the training. Personnel representing each agency were asked to evaluate the in-service training in the following areas: (1) the presenter's command of the subject matter, (2) the effectiveness of the presentation, and (3) the appropriateness of the presentation for the specific needs of the organization.

RESULTS

A t-test was performed to compare the volunteers' mean pre-test and post-test scores. The mean score on the pre-test was 59.9 percent with a standard deviation of 8.4 percentage points. The mean score on the post-test was 72.5 percent with a standard deviation of 5.8 percentage points. The t-test of differences of means yielded a t-value of 3.83 indicating a statistically significant improvement in scores at the .005 level of probability.

As of the completion of the project on November 1, 1985, the consumer economics trainees had conducted twenty-five in-service training sessions for the staffs of agencies in Kentucky providing services to the elderly. Organizations sponsoring the in-service training included visiting nurses associations, county cooperative extension offices, senior citizen church groups, retired teachers associations, county senior citizen centers, and foster grandparents programs. Mean scores for these items (See Table 1) were consistently above four on the three five-point scales. An additional item related to interest in hearing presentations from other volunteers produced a 3.75 mean score on a four-point scale. The results of the agency evaluations indicated that the volunteers were effective.

TABLE 1. Summary of Evaluations of In-Service Presentations

Evaluation Item	Mean Score	Points Possible
The volunteer presenter's command of the subject matter.	4.33	5
The effectiveness with which the volunteer/presenter presented the material and engaged the attention of the audience.	4.25	5
The apporpriateness of the presentation for the specific needs of the organization or group.	4.50	5
Interest in hearing presentations from other volunteer/presenters in the Gerontology Extension Program.	3.75	4

DISCUSSION

There are two basic components to an understanding of the success of the Gerontology Extension Project in improving the consumer economics functioning of the elderly. The first component is the success in training the volunteers in the subject matter of consumer economics. The second component is the volunteers' success in imparting that knowledge to service providers via the in-service training sessions.

There are two primary indicators of the success of the training of the volunteers. The most obvious indicator was the significant increase in the post-test scores. On average, scores increased over 12 percentage points. In addition, the decrease in the standard deviations of the pre- and post-tests from 8.4 percentage points to 5.8 percentage points can also be viewed as a success. Such a decrease indicates that the range of scores diminished due to a more marked improvement on the part of those volunteers who scored relatively lower on the pre-test. Such a result can be attributed to the wide range of knowledge among the elderly concerning consumer economics concepts. Those who came into the project with relatively less knowledge benefited more from the training.

Although there was a significant increase in knowledge from pre- to post-test, neither group mean was high. It could be argued that the level of knowledge was indeed low both before and after the training. However, it is important to note that the elderly volunteers were many years past their previous test taking experiences and that the test was difficult and the items specific. Many consumer educators have been concerned that young people's attainment on standardized tests of consumer knowledge have been low even after instruction. Should the elderly be that much different?

The second indicator (Table 1) was that evaluations by personnel of agencies were very positive. Each of the nine volunteers in the consumer economics section was selected to present at least two in-service sessions with several presenting at least four sessions. As would be expected, there were varying levels of quality in the presentations. Comments on open-ended questions indicated that the primary problem with the less satisfactory presentations appeared to be the inability of the presenter to relate to his/her audience and thereby more effectively communicate the message being presented. Part of this problem was due to the sponsoring agency's lack of explicitness concerning their goals for the in-service session. In some instances, this was exacerbated by the difficulty of some presenters to adapt a pre-planned talk when it became clear that it was less than appropriate or even to recognize when such was the case. Of course, this was not always the case. At one in-service session, volunteer presenters were commended for adjusting and adapting. Several volunteers were scheduled for several hours during that session. When time became a problem, the volunteers were able to adjust their presentations, and the evaluator noted that the problems originated with the agency and not the presenters.

CONCLUSIONS

It appears that retired volunteers can be valuable resources in the delivery of consumer education/information to agencies working with the elderly. Those interested in developing programs similar to the Gerontology Extension Project should consider the following points. First, there is a wide variation among the elderly regarding the level of knowledge of consumer education concepts possessed. Training should be as individualized as possible so that each trainee receives the specific concepts they need at the appropriate level of sophistication. Second, more emphasis should be placed on developing the volunteers' presentation and teaching skills, especially in recognizing and adapting to the needs and desires of the audience that become evident during the presentation. Third, there should be better communication between agencies requesting in-service programs and the project personnel. This would help the agency more carefully focus its request in terms of the topic(s) to be covered. A major unkown of this project is the actual impact of the program of the elderly. The volunteers showed significant improvement in the knowledge base. Social service agencies receiving the training from the volunteers were generally pleased with what they received. But the true benefits will be the information that is passed on to the elderly which in turn helps change behaviors. To this end funding is being sought to continue the in-service to social service agencies and to more fully evaluate the impact of the project.

REFERENCES

1. An Aging Society, *Family Economics Review*, 1984, No. 3, p. 20.

2. Ruffin, M. D. Contribution of the Family to the Economic Support of the Elderly, *Family Economics Review*, 1984, No. 4, pp. 1-11.

3. Swagler, R. M. *Consumers and the Market: An Introductory Analysis*, 2nd ed. Lexington, Mass.: D. C. Heath and Company, 1979.

HIGH SCHOOL AND COLLEGE STUDENTS' CONSUMER ACTIONS: IMPLICATIONS FOR CONSUMER EDUCATION

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ABSTRACT

A Consumer Action Survey was developed to assess the consumer actions of high school and college students. College students were found to carry out significantly more positive consumer actions than the high school students. The positive effects of previous consumer education were apparent when consumer actions of never-married and married college students with previous consumer education were compared. Further analysis found the most positive consumer actions were by married college students who had taken consumer education courses. This study suggests that the benefits of consumer education, as measured by the Consumer Action Survey, may not be evident until an opportunity or need to apply previously learned information and skills occurs.

INTRODUCTION

Does the consumer actions of high school students differ from that of college students, and if so, to what are the differences attributable? The literature suggests that age, sex, stage in the consumer life cycle, need for consumer information life cycle change, family, mass media, maturity, experiences in the marketplace, and consumer education all may affect consumer actions. Other possibilities may include sources of information available and timing of consumer education.

Studies which have examined the effects of consumer education have predominately focused on comparisons of students who were enrolled in consumer education or consumer economics courses with those who did not take such a course (3,4,5, 9,10). Research on socialization and acquisition of consumer competencies has focused on the effects of family, mass media, peers, age maturity and experience (1,6,7,11). Research has failed to show definitively that consumer education courses make a difference in consumer knowledge or competencies. The effects of consumer education may be a necessary but not sufficient condition for positive consumer actions. Experience in the marketplace, after taking consumer education courses may be a requirement for previous learning to be applied or change in consumer actions to occur. If age, maturity, and experiences make a difference in the increase in consumer knowledge and change in behavior, as suggested by Bell and Durr (1), then perhaps the benefits of consumer education are not evident until the individual is actively participating in the marketplace, is experiencing marketplace problems, and is in need of consumer skills to manage his/her own resources.

Consumer actions of high school students have been studied more than students of college age. Stampfl (8) recognized that the variations in life cycle stages of college age consumers may explain the lack of research on consumer behavior of the college age consumer. Perhaps competencies developed in consumer education should more appropriately be taught at a higher level or perhaps knowledge gained in high school consumer education will become more meaningful at a later age, given factors such as age, maturity, experiences or life cycle changes.

OBJECTIVES

This study reports on a survey designed specifically to address consumer actions of high school and college students. The objectives of the study were to:

1) develop a consumer action survey to assess consumer actions of high school and college consumers;
2) assess the effects of previous consumer education on consumer actions of high school and college students;
3) determine differences in consumer actions of high school and college students;
4) explore the effect of previous consumer education on consumer actions of married college students; and,
5) identify factors that have implications for consumer education.

METHODOLOGY

Consumer actions encompass a wide range of activities or behaviors related to the consumer role. Conceptually, consumer actions were classified into planning and implementing actions based on the process/action component of the systems model for management (2). Over 100 items representing consumer actions of high school and college youth were generated by teachers of consumer education who were participants in a teaching consumer education workshop. The Consumer Action Survey (CAS) consisted of these action items using a 1 to 5 always-to-never Likert-type response scale, with the items scaled so that "1" represented positive consumer actions. In addition to the action items, data on sex, age, grade level, marital status, purchase experiences, and consumer education of the students were collected.

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The sample for this study consisted of 439 high school students from nine high schools representative of socio-economic and demographic characteristics of the 326 students in the college sample. The college sample consisted of freshmen through seniors enrolled in general education courses and represented a cross section of majors offered at the university. Demographic data were compared to the factor scores using analysis of variance procedures with the factor scores as the criterion variables.

Factor analysis was used to test the conceptual framework used to generate the statements and to eliminate items with factor loadings of .40 or less. Fifty-six items in twelve factors representing four planning actions and 8 implementing actions evolved. The high Cronbach alpha's for both samples (.83 for high school and .87 for the college sample) indicated a high degree of commonality among the combined items of the CAS, and ordinarily is a basis for not conducting or using the factor analysis in additional analysis; however, due to the diversity among the items representing planning and implementing actions, factor analysis data were used to identify specific areas of consumer actions within the CAS where students might differ.

The factors representing planning actions were identified as reading consumer publications, use of pre-purchase information, use of label information, and pre-planning decisions. The factors representing implementation actions were impulse buying, marketplace convenience, price consciousness, return of defective items, conservation of energy, influence of TV ad information, good consumer practices, i.e. comparison shopping, and influence of other on purchases.

Sample items include: "When I shop, I buy the item that appeals to me at the moment" (impulse buying); "I buy the least expensive item that serves my purpose when buying personal items" (cost conscious); "I read magazines such as Consumer Reports for information before buying major items" (read consumer publications; "I read product labels before making a purchase" (pre-purchase information); and, "I make a decision on what I plan to buy before shopping" (planning).

Multivarite analysis failed to explain substantial differences in consumer actions by age, education level or consumer experiences. Therefore, the high school/college student comparisons serve as proxy variables for differences in age, experience, education level and maturity. Understanding the differences in consumer actions of the two groups have implications for consumer education.

FINDINGS

College students carried out significantly more positive consumer actions than the high school students as indicated by the consumer index scores and by factor means (Table 1). The college students were significantly more likely than the high school students to follow the four planning actions. The college students also were significantly more likely to follow implementation actions in the three areas of being more cost conscious, conservative in energy use, and more likely to follow good consumer practices such as comparison shopping and paying bills on time.

TABLE 1. Comparison of High School and College Students' Factor Means and Consumer Index Score Means.

Factor Name	High School (N=439)	College (N=326)	ANOVA F-Test P
	Factor Means		
PLANNING			
Read Consumer Publications	4.45	4.11**	.001
Use Pre-purchase Information	2.61	2.33**	.001
Use Label Information	3.12	2.76**	.001
Planning	2.79	2.47**	.001
IMPLEMENTING			
Impulse Buying	2.55	2.68	.10
Convenience	2.39	2.41	.828
Cost Conscious	3.19	3.02**	.001
Return Items	2.44	2.30	.10
Conserve Energy	2.59	2.32**	.001
TV Ad Information	2.70	2.65	.338
Good Consumer Practices	2.63	2.21**	.001
Influenced by Others	3.03*	3.19	.001
CONSUMER INDEX SCORE	2.85	2.69**	.001

*Significant positive consumer actions of high school students.
**Significant positive consumer actions of college students.

The Consumer Index Score is an additive summary index of the items included in the factors. The factor means and Index score are based on the 1 to 5 scale where 1 - the more positive consumer actions.

Thirty-eight percent of the college students and 44 percent of the high school students reported that they had previously taken a course or units in a course that covered consumer education content in subject areas of home economics, business, economics or social studies. There were no significant differences in the consumer index scores between the college students who had and those who had not previously taken a consumer course (Table 2).

Grade level or taking more than one consumer related course had no significant effect on the college students consumer actions. The high school students who had taken a consumer course were significantly more likely to read consumer publications, use pre-purchase information, and return defective items than those high school students who had no previous consumer education courses. The recency of consumer education for the high school students may account for these differences, or consumer experiences and maturity may be the equalizing factor for the college students. A comparison of subject areas of consumer education revealed no significant differences between subject areas of home

TABLE 2. Effect of Consumer Education/Consumer Economics on Consumer Actions of High School and College Students.

	High School		College	
	Previous C.Ed/Econ N=194	All Others N=245	Previous C. Ed/Econ N=123	All Others N=203
	Factor Means			
PLANNING				
Read Consumer Publications	4.36*	4.54	4.18	4.07
Use Pre-purchase Information	2.53**	2.69	2.30	2.35
Use Label Information	3.06	3.17	2.70	2.81
Planning	2.77	2.82	2.46	2.47
IMPLEMENTING				
Impulse Buying	2.56	2.54	2.51	2.46
Convenience	2.46	2.34	2.36	2.44
Cost Conscious	3.14	3.24	3.05	3.00
Return Items	2.31*	2.55	2.29	2.32
Conserve Energy	2.52	2.66	2.31	2.33
TV Ad Information	2.71	2.70	2.74	2.60
Good Consumer Practices	2.58	2.68	2.17	2.23
Influenced by Others	3.05	3.01	3.20	3.17
CONSUMER INDEX SCORE	2.84	2.86	2.68	2.68

Factor means and index score are based on a 1-5 scale where 1 = more positive consumer actions.

*significant at the .05 level

**significant at the .01 level

TABLE 3. Effect of Marriage on Consumer Actions for All College Students and for College Students Who Had Taken a Consumer Education Course.

	All College Students (N=326)		College Students Having Taken Cons. Ed. Course (N=123)	
	Never Married N=279	Married N=47	Never Married N=111	Married N=12
	Factor Means			
PLANNING				
Read Consumer Publications	4.20	3.61***	4.20	4.00
Use Pre-purchase Information	2.35	2.16*	2.34	1.91*
Use Label Information	2.82	2.45***	2.74	2.24**
Planning	2.55	1.94***	2.52	1.69***
IMPLEMENTING				
Impulse Buying	2.52	2.19***	2.57	1.93***
Convenience	2.42	2.35	2.38	2.02*
Cost Conscious	3.05	2.82*	3.12	2.41**
Return Items	2.34	2.08	2.35	1.50**
Conserve Energy	2.43	1.66***	2.40	1.25***
TV Ad Information	2.71	2.33***	2.79	2.13**
Good Consumer Practices	2.26	1.93***	2.22	1.69**
Influenced by Others	3.24	2.86***	3.26	2.62**
CONSUMER INDEX SCORE	2.74	2.37***	2.74	2.11***

Factor means and index score are based on a 1-5 scale where 1 = more positive consumer actions.

*significant at the .05 level

**significant at the .01 level

***significant at the .001 level

economics, business, economics or social studies for either the high school or college students.

To test the proposition that maturity, experience, and need for the information from consumer education are the factors that determine the usefulness of previous consumer education, two comparisons were made with the assumption that the married college students would be more mature, have had more experiences in the marketplace, and be in need of using consumer education knowledge and information in their current life style. From the college sample, the 47 married students were compared to the single students and the married students who had previous consumer education were compared to the never-married students who reported previous consumer education. The married students were better in the consumer index score and 10 of the 12 factor mean scores. Nine of the comparisons were significant at the $p < .001$ level and all were in the direction of positive consumer actions for the married students (Table 3).

The comparison of the consumer index score and factor means scores of the married students and the never-married students who had previous consumer education found 11 out of 12 factors and the consumer index score significant in the direction of the married students. Further assessment of the married students who had previous consumer education seemed appropriate. A 2-tail t-test comparing the factor means of married students who had consumer education and those with no previous consumer education found positive consumer actions represented by all but one factor (reading consumer publications). Six of the implementing factors, one planning factor and the consumer index score were significant in the direction of the married students who had previous consumer education courses (Table 4).

TABLE 4. Effect of Consumer Education on Married College Students Consumer Actions.

Factor Name	Previous Cons Ed/Econ N=12	No Consumer Education Course N=35	2 Tail T-Test P
	Factor Means		
PLANNING			
Read Consumer Publications	4.00	3.5	.197
Use Pre-purchase Information	1.91	2.26	.113
Use Label Information	2.24	2.63	.079
Planning	1.69	2.14	.023
IMPLEMENTING			
Impulse Buying	1.93	2.29	.025
Convenience	2.02	2.53	.006
Cost Conscious	2.41	3.13	.006
Return Items	1.50	2.24	.003
Conserve Energy	1.25	1.91	.004
TV Ad Information	2.13	2.45	.125
Good Consumer Practices	1.69	2.03	.038
Influenced by Others	2.62	2.91	.301
CONSUMER INDEX SCORE	2.11	2.50	.001

Factor means and index score are based on a 1 to 5 scale where 1 = the more positive consumer actions.

These findings support assumptions from previous research that suggest age, maturity, and experiences make a difference in consumer knowledge and behavior. This study further suggests that the benefits of consumer education, as measured by the Consumer Action Survey, are not evident until the consumer has the necessary resources and the opportunity or need to apply previously learned information and skills, as was exhibited by the married students with previous consumer education.

CONCLUSIONS AND IMPLICATIONS

The high school and college students in this study differed as consumers with the college students having more positive consumer actions as measured by the consumer index score and the factor mean scores of the Consumer Action Survey. Age, maturity, consumer experience and opportunity or need to apply previous consumer information and skills appear to be plausible explanations for some of the differences in consumer actions of the high school and college students.

While some positive actions were related to consumer education of the high school students, the effect of consumer education was not apparent until comparisons were made of the married college students who had previous consumer courses. The effect of marriage on consumer actions strongly supports the "needs" assumption regarding the application of consumer knowledge and skills. Because the need for consumer information for most students comes after formal education, much of the information provided in the consumer education classroom will have future rather than present usefulness. The challenge for teachers at both the high school and college level is to plan educational experiences that are behaviorally relevant for their students.

More research on the latent effects of consumer education should be pursued. Follow-up studies assessing both knowledge and consumer actions should be conducted. Longitudinal research would be the ideal sampling method for making comparisons between age levels and identifying the points at which formal consumer education makes a difference. Identification of the consumer actions, i.e. what the consumer does rather than assessment of knowledge, seems an appropriate method of assessing change over time.

REFERENCES

1. Bell, Camille G. & Durr, Gloria E. (1980). Usefulness of consumer education concepts as perceived by current and former homemaking students, Home Economics Research Journal, 11, 215-222.

2. Gross, Irma H., Crandall, Elizabeth W. & Knoll, Marjorie M. (1980). Management for Modern Families. Englewood Cliffs, N.J.: Prentice-Hall, Inc.

3. Hawkins, Calvin H. (1979, Summer). A study of the use of consumer education concepts by high school graduates. The Journal of Consumer Affairs, 11, 122-127.

4. Langrehr, Frederick W. (1979, Summer). Consumer education: Does it change students' competencies and attitudes? The Journal of Consumer Affairs, 13, 41-53.

5. Mieselwitz, Rolf. (1968, Fall). A study to determine the extent of consumer education knowledge of secondary school students related to family finance. National Business Education Quarterly, 37, 30-31.

6. Moschis, George P. (1978). Acquisition of the Consumer Role by Adolescents. Atlanta: Georgia State University.

7. Moschis, George P. & Moore, Roy L. (1978, Winter). An analysis of the acquisition of some consumer competencies among adolescents. The Journal of Consumer Affairs, 12, 277-291.

8. Stampfl, Ronald W. (1978, Winter). The consumer life cycle. The Journal of Consumer Affairs, 12, 209- 219.

9. Stanley, T.O. (1975). The development of the test of consumer competencies. (Doctoral dissertation, Northern Illinois University), Ann Arbor, MI: University Microfilms, No. 76-9586.

10. Thomas, Lillie Ruth. (1969). A comparative study of the effects of course organization on achievement in consumer education concepts. (Doctoral dissertation, Arizona State University).

11. Ward, Scott. (1974, September). Consumer socialization. Journal of Consumer Research, 1, 1-14.

A NEW ASSESSMENT OF THE BENEFITS OF CONSUMER EDUCATION

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ABSTRACT

This paper discusses the measurement and assessment of the benefits of consumer education. The methodology and findings of previous research are reviewed and causes for failure to demonstrate positive outcomes are identified. A case study of an investigation on consumer behavior in the marketplace which evidenced the benefits of consumer education is presented and recommendations are offered for further research to measure the per-effects of educational efforts in this subject area.

Consumer education as a program of study is currently being deemphasized and continuation of courses in this subject area within the nation's schools is in jeopardy. The apparent declining interest in consumer education might be attributable to the elimination of federal funding for its support, the natural cycle of educational movements, and, at least in part, to the failure of evaluation studies to demonstrate positive outcomes of consumer education courses reflecting increased knowledge, attitude change, or more efficient decision making and marketplace behavior.

This paper discusses the measurement and assessment of the benefits of consumer education and suggests that the failure to show positive outcomes from enrollment in consumer education courses may be the result of the methodology and design of evaluation studies. It is suggested that the benefits of consumer education may be more pervasive than generally recognized and that alternative approaches to its evaluation may more fully demonstrate these benefits. Due to courses in the subject matter having been taught for more than 20 years, querying consumers in the marketplace might be a more appropriate measure of the pervasiveness and long range benefits of consumer education.

An Overview

Consumer Education had its strong beginnings in the 1930s where economic need was its primary focus. Consumer education sought to prepare students for the dual role of producer and consumer. Early texts [22,23,34] emphasized buymanship for the consumer perspective and knowledge of merchandise for the producer role or sales perspective. The decade of the fifties was a dormancy period for consumer education as the economy experienced growth and the relative economic position of individuals in society was enhanced.

By the beginning of the sixties, interest in consumer education became once again evident; however, its focus was different as the greater majority of Americans were able to meet basic needs and were more concerned with achieving satisfaction in the marketplace [25]. The emphasis during this period was on inequities in the marketplace created by producer power and the need for a proactive consumer voice to correct this imbalance. The importance of consumer education as a means to alleviate these inequities was expressed through President' Ford's November, 1975 White House News release proclaiming the "right to consumer education" and the subsequent establishment of an office for Consumer Education within the Department of Education. National studies such as the Sentry Survey 1977 [9] reiterated the need for consumer education and others such as Kelso [12] and Wilhelms [31] testified to the lack of functional competency in society.

Concurrent with the expressed need for consumer education, scholars were attempting to define and limit the scope and content of consumer education. Richardson [24], Willett [32], and Wilcox [30] among others assessed the state of the art and addressed the mission and goal of consumer education. Bannister and Monsma [1], following extensive efforts, developed The Classification of Concepts in Consumer Education and posited the following definition:

> Consumer education is the process of gaining the knowledge and skills needed in managing consumer resources and taking actions to influence the factors which affect consumer decisions [1, p. 5].

The definition explicitly specifies an impending change in the cognitive and behavioral domains and implies a change in attitude toward a proactive stance on consumer issues. This definition is reflective of the evaluation research conducted during the 1970s which sought to identify and validate the benefits of consumer education. Unfortunately much of this research concluded that consumer education produced little or no change [2, 5, 28, 29] in the cognitive domain, findings in the affective domain that were inconsistent [4, 7, 8, 13], and no difference in behavior between students who had enrolled in consumer education and those who had not [10].

Bloom [3] suggested that consumer education could help to bring about changes in satisfaction levels of consumers. Perhaps in interpreting the definition of consumer education Bloom intuitively perceived satisfaction to be an outcome as he stated, "consumer education courses generally attempt to change knowledge, behavior, attitudes, and satisfaction of students while hoping to have an indirect effect on marketplace concentration" [3, p.

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270]. Although the consumer movement of the sixties and the seventies was rooted in dissatisfaction with the marketplace, measurement of satisfaction as an outcome of consumer education was not typically included in evaluation research.[a]

REVIEW OF PREVIOUS RESEARCH

Traditional assessments of consumer education have included pretest-posttest quasi-experimental designs which measured the effects of consumer education in terms of knowledge gained, attitude change or by direct questioning on behavior in the marketplace. Most of the studies utilized student populations for which the effects were measured immediately following the completion of a consumer education course. In spite of the fact that consumer education is "education for living," few researchers sampled adult subjects who were active participants in the marketplace utilizing credit, buying homes and automobiles, and attempting to make rational decisions in an environment characterized by product proliferation and increasing market complexities.

Cognitive Change

Studies which measured cognitive change as a result of consumer education often found demographic variables such as age, mental ability, prior knowledge, and sex of the student to be significant predictors of consumer competency [14]. Carsky, Lytton, and McLaughlin [4] found major field of study and sex to be significant factors in assessing differential knowledge gains among university students enrolled in a consumer education course. Several studies utilized quasi-experimental designs and compared the change in consumer knowledge of students enrolled in consumer education courses to control groups of students not similarly enrolled. Bibb [2], Claar [5], and Thomas [28] found no differences in consumer competency. Waddell [29] found a weak effect in comparing two methods of consumer education instruction to a control group. Langrehr [13] reported significant differences in consumer economic competency among high school economics, consumer education, and control classes, with the consumer education class having the highest scores. Garman, McLaughlin, McLaughlin, and Eckert [8] compared university students enrolled in a consumer education course to a control group and found a significant difference in gain scores between the two.

The failure of several of these to demonstrate an effect of consumer education might have been due to several methodological issues. First, none of these studies were true experiments in the sense that there was no random assignment to either the experimental or control groups so that differential results may have been due to individual characteristics as identified by Carsky, Lytton, and McLaughlin rather than to the effect of instruction. Second, it has been acknowledged [33] that consumer education in secondary schools does not attract the best students. Failure to find results may be due to student characteristics. Students placed in consumer education classes may possess the same mental ability as those not enrolled, but they may lack motivation and interest in the subject matter. Third, the use of closed end multiple choice and true false questions to test students might be measuring their reasoning ability more than their recall. Fourth, as instruction in any subject matter should be expected to result in some knowledge gain, the use of a pre/post test design to measure cognitive change when comparing students enrolled in a consumer education course to a control group might not be appropriate.

A study by Dickinson [6] to measure consumer awareness found statistically significant differences between adults who had previously enrolled in consumer education and those who had not. Although an Eta^2 of 0.07 indicated a weak effect, the finding of a positive outcome of consumer education in this study might be of greater practical significance and indicative of the pervasive influence of consumer education. This study differs from those previously discussed in that the instrument developed by Dickinson required recall rather than recognition for response, the sample was comprised of adults who were active in the marketplace, and those who had formal consumer education were not drawn from a recently completed class.

Attitude Change

Based on the results of several studies [4, 7, 8, 13], it could be concluded that attitudes toward the operation of the economy and the marketplace do change as a result of consumer education. However, findings on the direction of change have been inconsistent. Garman [7] using a modified Burton Opinionnaire (1970) found that attitudes of university students "changed drastically" and generally moved in the direction of those held by consumer advocates. In another study using the Lown Consumer Issue Attitude Inventory [17], Garman, McLaughlin, McLaughlin, and Eckert [8] found that students' attitudes on Information, Redress, and Public Policy, and Consumer Voice moved in the direction of the advocate position.

Carsky, et. al. [4] using the Lown Consumer Issue Attitude Inventory also reported that university students' attitudes changed following a consumer education course, but the direction of change was opposite that found by Garman. These students attitudes moved toward agreement with the business position. This finding was not unique as Langrehr [13] using a Business Opinion Survey found that attitudes of high school students enrolled in a consumer education course while being more negative toward business on a pretest were more positive on a posttest than students who were enrolled in an economics course. Langrehr postulated that the change toward pro business posture was the result of an understanding of how the economy operated and a perceived ability to use the system to their personal advantage. Langrehr suggested that "consumer education may be able to help these people learn how to use the marketplace to satisfy their needs.... and with this satisfaction, negative feelings towards the marketplace may be removed......"[13, p. 51].

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[a] As much of the movement of the sixties focused on dissatisfaction, there might have been efforts to raise dissatisfaction levels through consumer education (ie. Johansson [18] postulated that consumers were satisfied because their aspirations were too low). Others indicated that consumer attitudes should move in the direction of the advocates [4].

Behavioral Change

Hawkins [10], finding no difference in marketplace behavior between individuals who had enrolled in a consumer education course and those who had not, concluded that there was no reason for instruction in this subject area. While this conclusion logically follows from the findings of the study, the research design and methodology may have attenuated the construct validity. Self reports on actions which clearly have "correct" responses are highly subject to demand artifacts. For example, it is "correct" to compare prices (reported by 92% w/consumer education and 96% w/o) and to read guarantees before the purchase (76.0% and 76.8%). The direct manner in which all questions were stated could easily lead to the responses given by either group. Furthermore, it is not known how many of those surveyed (two years after high school graduation) were active in the marketplace in terms of operating a household for which they were responsible for the financial management and procurement of goods. If the role of respondents had been controlled in the analysis, the conclusions might have been more valid.

A recent study on the socialization of elderly by Smith and Moschis [27] found that those who had previously enrolled in a consumer education course were more wary of advertising claims and less accepting of puffery. This study, though not designed to measure the effects of consumer education, found that it did make a difference in marketplace behavior.

Summary

Most of the research on evaluation of consumer education focused on assessing change resulting from consumer education immediately following the completion of a formal course. Many of these sampled high school students or college students and most of the studies measured cognitive gains by use of a pen and paper test. Is this methodology correct for an assessment of a program of study designed for "effective living?" Or might it be more appropriate to sample individuals who are "full participants" in the marketplace who may have had a consumer education course in their past? The studies reported which utilized students found either weak effects of consumer education or none at all. Two studies which used adults as the sampling frame found a positive effect. Dickinson using a slightly different methodology found that consumer education made a difference as did Smith and Moschis. As consumer education courses and topics have been incorporated in school curricula for fifty years, it would appear that the measurement of the effects of consumer education could be obtained examining the behavior and motivations of adults interacting in the marketplace.

A CASE STUDY: THE EFFECTS OF IN-STORE INFORMATION PROGRAMS ON CONSUMER SATISFACTION

This study was designed to specify the relationship between the provision of consumer information programs and satisfaction with food marketing services and to identify factors which contributed to use of the information program. It was based on the rationale that consumers want and need information to aid them in making effective choices and that through the use of this information they will be more satisfied with their purchase decisions and with the shopping environment.

Methodology

A cross sectional survey design was incorporated into a store intercept study. The research was conducted at a warehouse foodstore where an in-store information program had been implemented one year earlier. The program, which focused on meats, provided three modes of presentation. Response to the program was measured by interviewing 277 shoppers. Respondents were asked about their use of the information presented, attitude toward the program, and perception of its usefulness.[b]

A two part data collection instrument was developed. The first was self administered. Respondents were queried on satisfaction with the meat department and with the store. Attitude, interest, opinion items related to food shopping and meal preparation were included in this section. An interview format was utilized to obtain information on shoppers response to the information program, shopping habits, and demographic characteristics. The final question asked respondents if they had ever "taken a consumer education course?"

The data were analyzed to test the relationship between response to the in-store information program and satisfaction with the shopping environment measured in terms of meat purchasing, satisfaction with the meat department, and with the store. Analyses were also conducted to identify factors which contributed to positive or negative response to the program. The response was measured by indicators for use of the program, attitude toward the program and perception of its usefulness. Cut scores were used to differentiate between positive and negative respondents on the indicators.

Results

The sample size of 277 was consistent with previous studies on shopping behavior which reported an average sample size of 200 [16, 19, 20, 26]. The respondents represented households of one to ten persons; the average household size was 4.1. The majority of the respondents were female (n = 242) and 245 (88.4%) were married. The largest number (n=93) were between the ages of 25 and 34 years. The demographic characteristics were parallel to those of warehouse shoppers described by other studies [11, 15, 21]. The average food budget was $100.00 per week, and the average food bill of the respondents on the date of the interview was $90.98.

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[b] As the program materials were developed by the supermarket chain, they were evaluated for accuracy, completeness, appropriateness and lack of bias by two independent judges considered to be experts in the field of nutrition.

Shoppers who responded positively toward the program were contrasted with those whose responses were negative. Results of independent samples t-tests were statistically significant at $p < 0.05$. Those who responded positively purchased more meat and were more satisfied with the meat department and with the store.

Discriminant function analyses to identify predictors of response to the information program indicated that Meat Purchasing, Meat Satisfaction, and Store Satisfaction could not explain and correctly classify positive and negative responders. Demographic and psychographic variables were entered into the analyses to identify antecedents of exposure to the program which might have moderated the responses. The demographic variables included age, level of education, occupation, occupation of spouse, length of time (years) the respondent had patronized the store and whether the respondent had enrolled in a consumer education course. Psychographic variables included the propensity of an individual to seek out information, preferences for meat, and management skills related to acquisition and preparation of foods.

The propensity of an individual to seek out information (INFOSEEK) and previous enrollment in a consumer education course (CNSRED)[c] were identified by the discriminant function analyses as antecedent variables that could explain variations in attitude and perception of usefulness of the program and consequent differences in levels of satisfaction. The addition of these variables to the equations resulted in raising the minimum D squared for attitude toward the program from 0.989 to 2.160 and raising the minimum D squared for perception of usefulness from 2.958 to 3.087. The discriminant function equations representing the best set of variables to explain differences in attitude and perception of usefulness were:

$$\underset{\text{(attitude)}}{D} = 0.398_{MP} + 0.518_{SS} + 0.679_{I} + 0.353_{C} \qquad (1)$$

$$\underset{\text{(usefulness)}}{D} = 0.304_{MS} + 0.625_{SS} + 0.584_{I} + 0.186_{C} \qquad (2)$$

where:

MP = Meat Purchasing; MS = Meat Satisfaction; SS = Store Satisfaction; I = INFOSEEK; C = CNSRED

The ultimate measure of the effects of an information program is in its use by the intended audience. Results of the t-tests indicated that shoppers who used the information were more satisfied with the shopping environment than nonusers. Four antecedents were identified which contributed to use or nonuse of the information program. In addition to INFOSEEK and CNSRED, attitude toward the information and perception of its usefulness were found to be significant predictors. The addition of these four variables resulted in raising the D squared for use of the information from 0.441 to 1.459. The discriminant function equation for use of the information program was:

$$\begin{aligned} D\ (\text{use}) = {} & 0.480_{MP} + 0.770_{SS} + 0.277_{I} + 0.260_{C} \\ & + 0.203_{A} + 0.570_{U} \end{aligned} \qquad (3)$$

where:

MP = Meat Purchasing; MS = Meat Satisfaction; SS = Store Satisfaction; I = INFOSEEK; C = CNSRED; A = Attitude toward the program; U = Usefulness of the program

Discussion

The results of this study indicated that the provision of a consumer information program can result in increased satisfaction among shoppers who are favorably disposed to the program. Those who possessed a positive attitude toward the program, perceived it to be useful, and used the information purchased more meat at the store, were more satisfied with the meat department and with the store.

In identifying the factors that contributed to response differences, the results indicated that previous enrollment in a consumer education course and the propensity to seek out information were associated with attitude toward the program and the perception its usefulness. These two antecedent variables moderated satisfaction with the shopping environment.

In addition to enrollment in a consumer education course and information seeking behavior, attitude toward consumer information and perception of the program's usefulness were found to contribute to respondents' use of the information provided. Although the data did not indicate that a consumer education course was requisite to use of the information program and consequent higher satisfaction levels, not having been enrolled in a consumer education course was identified as a significant variable in explaining negative response to the information program and lower levels of satisfaction with the shopping environment.

This study was based on the premise that consumers want and need information in order to make informed choices and that more informed choices result in greater consumer satisfaction with the marketplace. Consumer education through its emphasis on "information acquisition" can be of benefit in terms of giving individuals the tools and appreciation for information available in the marketplace and resulting higher satisfaction through informed decision making. Respondents in this study who had been enrolled in a consumer education course at some time prior to the interview were more satisfied with the marketplace. Thus, the study provided some evidence to support the need for consumer education as "education for living" in that it contributes to long run satisfaction with the marketplace.

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[c] Forty-two (15%) of the 277 participants in the study had previously enrolled in a consumer education course.

CONCLUSIONS AND RECOMMENDATIONS

The benefits of consumer education have been questioned because of failure of evaluation studies to demonstrate cognitive, affective, or behavioral change. This failure might have been more aptly associated with the methodology of the studies than with consumer education as a course of study. In the case study described, perception of the usefulness of a consumer information program (a cognitive measure), attitude toward the consumer information program (an affective measure), and actual use of the information (a behavioral measure) were found to be associated with enrollment in a consumer education course.

Although the study on the effects of in-store information programs on consumer satisfaction was not designed to measure the effects of consumer education, the addition of one question ("Have you ever taken a consumer education course?") enabled an analysis to provide evidence of the benefits of consumer education. This single question did not examine the characteristics of the course taken, and there was no effort to determine what might be a preferable mode of consumer education delivery for maximum effectiveness. The evidence available from this one study suggests that exposure to the concepts of the subject matter and the ambiance of consumer education may have a long term effect on market behavior. The topical content, perspective, educational level or other characteristics of the course may not be critical to its effect. Querying consumers in the marketplace on previous educational experience in this subject area could contribute to an awarenss and appreciation of the long range benefits of consumer education.

Based on this finding, it is recommended that studies on consumer behavior and satisfaction in the marketplace include one item in this regard. The inclusion of questions on previous consumer education experiences in multiple consumer behavior research studies could help to build an understanding and awareness of the pervasive effects of consumer education. The additive effects of multiple studies could contribute to the justification for encouraging enrollment by all students in consumer education courses.

REFERENCES

1. Bannister, R., and C. Monsma, Classification of Concepts in Consumer Education. (Ypsilanti, Michigan: Michigan Consumer Education Center, 1982, No. 137) Cincinnati, Ohio: South-Western Publishing Co., 1982.

2. Bibb, F.G., "A Comparative Study of the Knowledge of Three Aspects of Consumer Information Possessed by Selected Indiana, Illinois and Wisconsin University Freshmen," Unpublished Ed.D. dissertation. Northern Illinois University, 1971.

3. Bloom , P.N, and G.T. Ford, "Evaluation of Consumer Education Programs," Journal of Consumer Research. 6 (December 1979): 270-279.

4. Carsky, M.L., R. Lytton, and G. McLaughlin, "Changes in Consumer Competency and Attitudes: Do Student Characteristics Make a Difference?" in K. Goebel (ed.) Proceedings of the Thirtieth Annual Conference of the ACCI, Atlanta, GA: April, 1984.

5. Claar, R.C. "An Analysis of Economic Education and Consumer Education Knowledge of Kansas High School Seniors," Unpublished Ph.D. dissertaton, Kansas State University, 1973.

6. Dickinson, V.H. and J.P. Shaver, "A Test of Consumer Awareness for Adults," Journal of Consumer Affairs, 16 (No. 2, Winter 1982): 241-260.

7. Garman, E.T. "Does a Consumer Education Course Change Student Opinions? Yes!," National Association for Business Teacher Education, 8: 4-6.

8. Garman, E.T., J.S. McLaughlin, G.W. McLaughlin, and S.W. Eckert, "Measuring Change in Comprehension and Attitude in Consumer Education for Postsecondary Students," Proceedings of the Twelfth Annual Southeastern Regional Family Economics-Home Management Conference. February 2-4, 1983: 75-80.

9. Greyser, S.A. Consumerism at the Crossroads: A National Opinion Survey of Public, Activist, Business and Regulatory Attitudes Toward the Consumer Movement. Cambridge, MA: Marketing Science Institute of the Harvard Business School, 1977.

10. Hawkins, C.H. "A Study of the Use of Consumer Education Concepts by High School Graduates," Journal of Consumer Affairs, 11 (No. 1, Summer 1977): 123-127.

11. Heller, W., L. Kirash, M.A. Linsen, R. O'Neill, L. Schaefer, R. Tanner, and E. Walzer, "Competitive Dynamics in the Marketplace," Progressive Grocer, October, 1983: 29-52.

12. Kelso, C.R., et. al. Adult Functional Competency: A Summary. Austin, TX: The University of Texas at Austin, 1975.

13. Langrehr, F.W. "Does it Change Students' Competencies and Attitudes?" Journal of Consumer Affairs, 13 (No. 1, Summer 1979): 41-53.

14. Langrehr, F.W. and B.J. Mason, "The Development and Implementation of Consumer Education." *Journal of Consumer Affairs*, 11 (No. 2, Winter 1977): 63-79.

15. Langrehr, F. and R.K. Robinson, "Store Positioning as a Competitive Strategy in Food Retailing." *Journal of Food Distribution Research*, June, 1981: 20-30.

16. Lookinland, T.L., G.J. Carvalho, and K.L. Granzin, "An Investigation of Price-, Quality-, and Deal-Oriented Retail Market Segments," *Recent Developments in Marketing Science*, 1982: 99-103.

17. Lown, J.M. "The Development of a Consumer Issues Framework and a Consumer Issues Attitude Inventory," unpublished Ph.D. dissertation, Virginia Polytechnic Institute and State University, 1979.

18. Johansson, J.K., "The Theory and Practice of Swedish Consumer Policy," in D. Aaker and G. Day (eds.), *Consumerism: A Search for the Consumer Interest,* 4th ed. New York: The Free Press, 1982: 62-75.

19. Mazze, E.M. "Determining Shopper Movement Patterns by Cognitive Mappings, *Journal of Retailing* 50 (1974): 43-48.

20. Monroe, K.W. and J.P. Guiltinan, "A Path Analytic Exploration of Retail Patronage," *Journal of Consumer Research*, 2 (1975): 19-27.

21. Reed, M.J., and L.R. Robbins. "Predicting Supermarket Image from Individual Store Characteristics," *Journal of Food Distribution Research*, February, 1983: 37-45.

22. Reid, M. *Consumers and the Market*. New York: Appleton-Century-Crofts, 1942.

23. Reich, E. *Consumer Goods - How to Know and Use Them*. New York: Appleton-Century-Croft, 1937.

24. Richardson, L. *Consumer Education: A Position on the State of the Art*. Washington, D.C.: Office of Consumers' Education, U.S. Office of Education, 1979.

25. Scherf, G.W.H. "Consumer Education as a Means of Alleviating Dissatisfaction," *Journal of Consumer Affairs*, 8 (No. 1, Summer 1974): 61-75.

26. Samli, C.J., and M.J. Sirgy, "A Multidimensional Approach to Analyzing Store Loyalty. A Predictive Model," in K. Bernhardt and B. Kohoe (eds.). *The Changing Marketing Environment: New Theories and Applications*. Chicago: American Marketing Association, 1981.

27. Smith, R.B. and G.P. Moschis, "A Socialization Perspective on Selected Consumer Characteristics of the Elderly," *Journal of Consumer Affairs*. 19, (No. 1, 1985): 74-95.

28. Thomas, L.R., "A Comparative Study of the Effects of Course Organization on Achievement in Consumer Education Concepts," unpublished Ed.D. dissertation, Arizona State University, 1969.

29. Waddell, F.W. "The Effects of Experiental Consumer Education on Subsequent Performance in the Marketplace," unpublished Ph.D dissertation, Virginia Polytechnic Institute and State University, 1981.

30. Wilcox, S.D. *A Conceptual Framework for Consumer Education Curricula*. City University of New York. Submitted to the Office of Consumers' Education, January, 1980.

31. Wilhelms, F. T., ed. *Consumer Education Project: Final Report*. Denver, CO: Education Commission of the States, 1979.

32. Willett, S.L. *Current and Future Purposes and Objectives of Consumer Education*. Washington, D.C.: National Consumers League, 1979.

33. Zelanek, M.J. "Consumer Education: Let's Lead, Follow, or Get Out of the Way," Paper presented at the American Home Economics Association Annual Conference. Atlantic City, NJ: June 24, 1981.

34. ZuTavern, A.R. and A.E. Bullock. *The Consumer Investigates*. Baltimore: H. M. Rowe Co., 1938.

DISCUSSION OF PAPERS ON CONSUMER EDUCATION

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ABSTRACT

One study describes the effective use of retiree volunteers to extend consumer education to the elderly. Two studies suggest that documentation of the benefits of consumer education should include an analysis of consumer actions and satisfactions in the marketplace.

Individually and collectively, these papers add new insights to help improve the quality and effectiveness of consumer education. My comments will focus on some concerns and suggestions aimed at strengthening our understanding of what we have yet to learn about the design, delivery, and assessment of consumer education programs.

EDMONDSON AND FORGUE

All consumer education programs have costs as well as benefits. "Retirees as Volunteer Consumer Educators" is a refreshing adaptation of the Cooperative Extension Service model of extending consumer knowledge and skills in a relatively low-cost manner through the use of volunteers.

Within its modest framework, the project seems to have had some success in terms of measurable benefits to the retiree volunteers and acceptance by social service providers.

I would like to know more about how retiree volunteers were selected to work in the consumer economics specialty area. What criteria was used in choosing one volunteer over another? Were any specific qualifications required? Could this model work in communities where there are no retired university faculty and administrators?

I would like more information about training the volunteers. The conclusion cites the need for more individualized instruction, but few details of the training are given. What concepts and topics were addressed in the training? Did anyone ask the study's target consumers, elderly social service program clients, about their specific educational needs regarding their consumer affairs?

Considering the varying levels of content knowledge and teaching abilities of the retiree volunteers, why were volunteers asked to prepare and share lesson plans? Another approach would be to have Extension Specialists prepare model outlines that could be adapted by the volunteers to meet target consumer needs.

What evidence is there that social service providers needed and wanted consumer content update? To what extent do social service providers routinely pass along newly acquired consumer information to their clients?

Whether this project will benefit ultimate consumers is conceded by the authors to be the "major unknown." Fortunately, the authors promise follow-up studies in this area if funds are available.

PERSHING

"High School and College Students' Consumer Actions: Implications for Consumer Education" suggests that the benefits of consumer education may not be evident until an opportunity occurs to apply previously learned consumer knowledge and skills in the marketplace.

Traditional tools such as pre- and post tests of cognitive learning may not tell the full story as to the long-term benefits of consumer education. To further complicate research in this area, Pershing reminds us that many factors in addition to education affect consumer action. These include age, sex, lifecycle, need for and availability of information, family, media, maturity and experience. (In a somewhat related list, Carsky and Mitchell suggest additional variables: student's mental ability, motivation, and prior knowledge.)

In the literature review, the author summarizes the work of Hawkins, Langrehr, Miselwitz, Stanley, and Thomas by stating, "These studies reported that consumer education did not increase consumer competencies." This may be a misleading and potentially harmful generalization when viewed as a collective summary of the five research studies cited.

Another concern I have with the paper is the assumption that a survey which focuses largely on consumer purchase behavior could measure the effectiveness of high school consumer education courses in a variety of subject areas. Were the high school course outlines analyzed in any way prior to assuming that these courses could and did affect consumer behavior that occurred sometime later? For example, do we know whether or not consumer purchase concepts were even among the competencies taught, especially in economics, business and the social studies?

In my opinion, the research design must include an analysis of specific concepts taught in a given consumer education setting linked with specific marketplace behaviors observed before we can begin to generalize about the benefits and effects of consumer education.

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[1] Director, Michigan Consumer Education Center

Nonetheless, the paper makes an important contribution because it underscores the need for research that documents the long-term effects of consumer education on consumer actions. To paraphrase, the author seems to be saying, "Don't measure what consumers say, measure what consumers do." Do not rely on cognitive post tests alone to measure effectiveness, look at marketplace behavior as well.

CARSKY AND MITCHELL

This provocative paper titled "A New Assessment of the Benefits of Consumer Education" clearly states what few of us want to acknowledge, that consumer education is in jeopardy in the nation's schools. One reason for this unfortunate situation, say the authors, is the failure of evaluation studies to demonstrate cognitive, affective, or behavioral change as a result of consumer education.

Moving quickly from this gloomy, downright pessimistic view, the authors suggest that the benefits of consumer education may be more pervasive than generally recognized. This fact could be documented, the researchers contend, if we could measure its effectiveness in terms of consumer satisfaction.

Not until reading the case study on the effects of in-store information on consumer satisfaction did I realize that this paper has two distinct parts. One part is a stand-alone review of previous research in consumer education; the second is a report of a study of consumer information use at the point of sale. The relationship between the two parts is somewhat tangential rather than direct.

It is puzzling why the authors chose to title their paper "A New Assessment of the Benefits of Consumer Education" when they clearly state that their study was not designed to measure the effects of consumer education. The single question, "Have you ever taken a consumer education course?" did not prove anything about the long-term benefits of consumer education. Having a previous course in consumer education is one of many factors which may help shape a positive attitude about a food store's consumer information program.

While the study provides some evidence that prior consumer education helps consumers achieve greater satisfaction in the marketplace, it simply fails to deliver what the title of the paper promises.

The important contribution of this paper however, is not its title, but rather the fact that it points to the growing need for research that is carefully designed and meticulously executed to measure the benefits of consumer education.

SUMMARY

I commend Edmondson, Forgue, Pershing, Carsky, and Mitchell for sharing their work with ACCI. They have called our attention to the need to measure consumer education's effectiveness by analyzing relationships between concepts taught and behaviors observed.

Without reliable data, consumer education is likely to continue to be in jeopardy. With convincing documentation however, we can improve the quality of consumer education and measure its long-term benefits. Only then will consumer education take its rightful place in the educational mainstream of the nation's schools and communities.

KNOWLEDGE, ATTITUDES, AND PRACTICES IN THE USE OF CREDIT

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ABSTRACT

The purpose of the study is to investigate the relationships among knowledge of credit, attitude toward credit, and credit practices. The data were collected in Marshalltown, Iowa, during the winter of 1982 through 201 personal interviews with household money managers. The analyses include correlation and path analysis using LISREL. There is a positive relationship between knowledge of credit and attitude toward credit. The more knowledge the consumer has about credit and the more positive the consumer's attitude toward credit, the more the consumer uses credit. Knowledge of credit is positively related to the education of the money manager, household size, and household income. Attitude toward credit is positively related to household income. Education has an indirect effect upon attitude toward credit and upon credit practices through the level of knowledge about credit.

The purpose of the study is to investigate the relationships among knowledge of credit, attitude toward credit, and credit practices. Previous studies have investigated the relationship between knowledge of credit and credit practices and/or the relationship of attitude toward credit and credit practices. However, studies have not included all three variables and analyzed the relationships among the three.

Garcia [9] states that the direction for future research about credit cards is to examine the determinants and implications of credit card use, not in isolation but as part of a more general theory of consumer behavior. This study attempts to analyze credit usage in a more general framework than has been done in past studies.

PREVIOUS RESEARCH

Credit Practices

Most studies involving credit have been primarily descriptive, indicating who uses credit, what items are purchased with credit, how frequently credit is used, and consumer's knowledge of credit costs [3,8,19,31,32,34]. Mueller [29] investigated the relationship between money management practices including credit and the family debt-to-income ratio.

Household size was found to be positively related to installment credit use in studies by Ryan and Maynes [36], Dunkelberg and Stafford [6] and Richards [33]. Several studies have found a negative relationship between age of the household head and credit use or financial management [1,11,15,18,19, 26,27,29,35,36,37,39]. Younger households have more demands on resources and less experience managing money.

Numerous studies have indicated a positive relationship between education and financial management practices or credit use (1,5,10,11,13,18,19,20,29, 33,34). Income is related to credit use. Lower- and middle-income families tend to have more experience with loans and current credit card use than higher-income families [1,19,27,36,37].

The greatest proportion of consumers who are in deep debt trouble are unmarried, the poor, the uneducated, those under 25 or 65 and older, and young families with young children [14,22,27,28, 36,39].

Credit Knowledge

A large proportion of consumers do not appear to have an understanding of the credit market. Education and income are key determinants of knowledge and understanding of consumer credit [2,7,13,22, 26,30,39]. It appears that high income and highly educated consumers are more likely to know about credit than are low income and consumers with less formal education.

There is some relationship between knowledge and current credit use. Consumers with more knowledge about credit, use credit to a greater extent than consumers with only a little knowledge about credit [5,19,37].

Attitude Toward Credit

The studies that include attitude toward credit as a variable usually measure it in a dichotomous form - favorable or not favorable. People with more favorable attitudes toward installment debt use more installment credit [1,5,7,12,17,26]. Upper income consumers hold more favorable attitudes toward credit than do lower income consumers [38,40]. Younger consumers have more positive attitudes toward credit use than do older consumers [26]. Mandell [26] found that the more highly educated consumers approve of the use of credit more than do those with less education.

Mueller [29] explored attitude in terms of the amount of debt a consumer is willing to owe. Households who are willing to owe larger amounts of money on credit cards have a higher level of debt.

SAMPLING AND DATA COLLECTION

The data were collected in Marshalltown, Iowa, during the winter of 1982 through 201 personal interviews. Completion of the personal interviews required an average of 45 minutes, with a range of 15 minutes to 90 minutes.

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[1] Sharon M. Danes is a graduate student and Tahira K. Hira is an Associate Professor in the Department of Family Environment.

An area sample of housing units in Marshalltown was drawn by the Iowa State University Statistical Laboratory. According to this procedure, any household in existence at the time of the study has a known chance of being in the sample regardless of whether it was included in the census numbers or a city directory. Marshalltown is 50 miles northeast of Des Moines, and it has a population of 27,000. A diversified sample could be attained from Marshalltown due to its size and its varied industries.

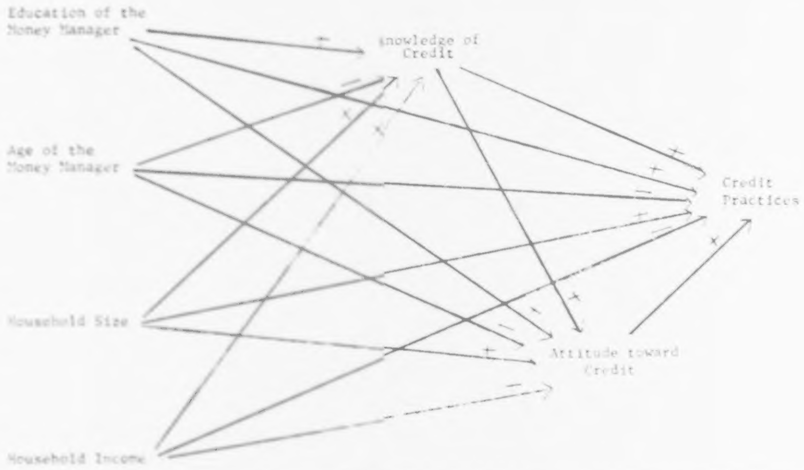
The unit of analysis is the household. The final sample included 198 cases. The information was obtained from the money manager of the household. Interviewers were instructed to ascertain which person in the household was the money manager by asking "who manages the money in the household?" and to conduct the interview with that individual. If the respondents were married and indicated money management responsibilities were shared then both were interviewed, and the person answering the majority of the questions in the schedule was considered to be the money manager.

HYPOTHESES

Figure 1 illustrates the analytical model that is proposed for this study. It also indicates the direction of the relationships that are hypothesized. A positive relationship is expected between education of the money manager, household size, and household income and knowledge of credit. A negative relationship is predicted between age of the money manager and knowledge of credit.

The respondents with higher education are expected to have a more positive attitude toward credit than are those respondents with lower education. Young money managers, large households, and those households with high incomes are expected to have a positive attitude toward credit. Money managers with more knowledge about credit will have a more positive attitude toward credit than do those with little knowledge about credit. It is expected that money managers who are younger and have more years of education use credit to a greater extent than do those money managers who are older and have few years of education. It is hypothesized that large households and households with low income use more credit than do small households and those with high incomes. Money managers with more knowledge about credit and a more positive attitude toward credit will use more credit than do those money managers with less knowledge and a less positive attitude toward credit.

FIGURE 1. A path diagram for the proposed analytical model.



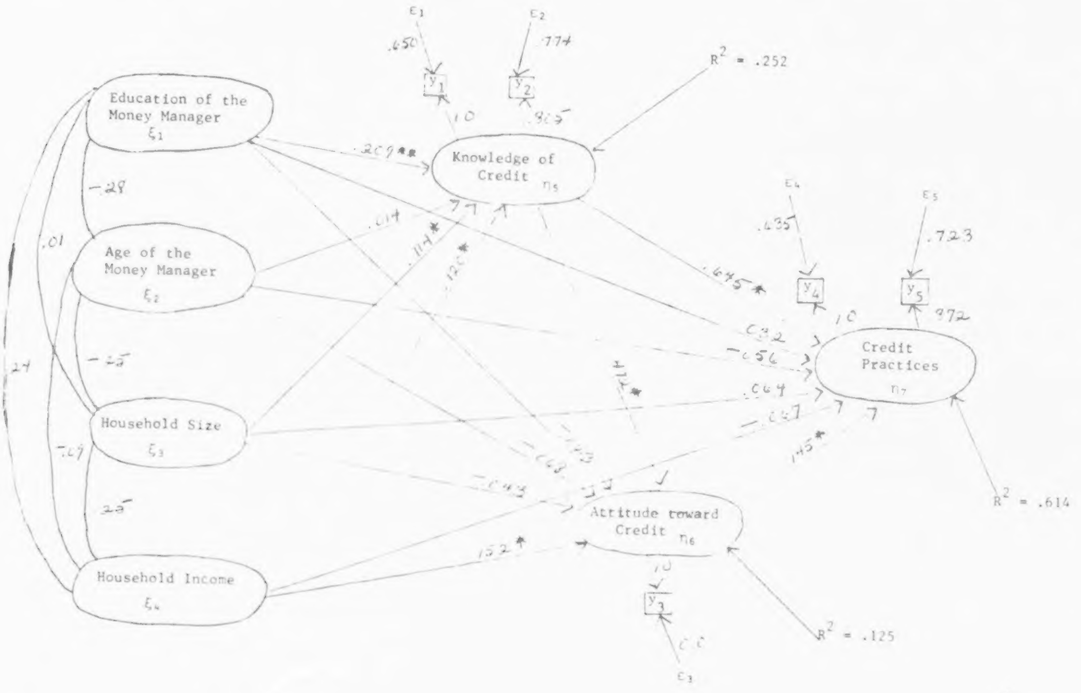
VARIABLES

Figure 2 presents the proposed model in LISREL form. It includes both the structural and measurement models. Following standard practices, latent constructs are diagrammed as ovals and observed measures as rectangles [21,23,24].

There are seven knowledge-of-credit questions that are randomly assigned to the two indicators of knowledge of credit. The questions in the first indicator include the following topics: consolidation loans, amount of income used for credit, credit rating, and the annual percentage rate on retail store revolving charge accounts. Credit card interest plans, federal legislation, and interest compounding are the topics for the second indicator. The knowledge questions are dichotomous (0 represents answers that were not correct and a 1 represents answers that were correct). As a result, the first knowledge indicator ranges from 0 to 4 and the range of the second indicator is from 0 to 3. The mean of the first indicator is 2.9; the mean of the second indicator is 1.7.

The attitude-toward-credit question includes how much the household feels comfortable owing on all credit cards at one time. The range of responses

FIGURE 2. Proposed Model After Estimation.


Education of the Money Manager ξ_1
Age of the Money Manager ξ_2
Household Size ξ_3
Household Income ξ_4
Knowledge of Credit η_5
Attitude toward Credit η_6
Credit Practices η_7
ε_1
ε_2
ε_3
ε_4
ε_5
y_1
y_2
y_3
y_4
y_5
.650
.774
1.0
.825
.435
.723
1.0
.872
1.0
0.0
R^2 = .252
R^2 = .614
R^2 = .125
-.28
.01
-.25
.24
-.09
.25
.209**
.014
.114*
.120*
.645*
.032
-.056
.064
-.047
.145*
.114*
-.063
-.068
-.043
.152*

* = t-value ≥ 2, ** = t-value ≥ 3; R^2 for entire model = .326

is from 0 to \$5,000; the median is \$100 and the mean is \$346.

The credit-practices variable also has two questions that are used as two indicators of the concept. The first indicator is the number of credit cards that household members use. The range for this question is from 0 to 24; the mean and mode are 2. The second indicator is the frequency with which the household pays finance charges on credit card accounts because the bill has not been paid in full. The scale for this question is never to always. The mean and median fall within the category of "sometimes."

The four exogenous variables in the model are education of the money manager, age of the money manager, household size, and household income. Education ranges from 4 to 20 years of education; the mean is 12.8 years. The age of the money manager ranges from 19 to 87. The mean age is 45.4 years old. The mean of household size is 2.6. The range of household size is from 1 to 8.

To ascertain the net income of the household, the money manager was asked to indicate the approximate net dollar income received by all members of the household in 1982. The figure includes the following sources: wages, salaries, investment income, business or farm income, social security, retirement payments, and child support payments.

ANALYSES

The analysis is done by applying LISREL V (Linear Structural Relationships) to a correlation matrix [21]. Essentially, LISREL unites factor analysis and structural equation modeling. LISREL compares the observed matrix of variances and covariances or the observed matrix of correlations to the estimated matrix generated by the model and asks if they "match."

LISREL is a general computer program for estimating the unknown coefficients in a set of linear structural equations. The variables in the equation system may be either directly observed variables or unmeasured latent variables which are not observed but related to observed variables. The computer program is based on a general model which is designed to handle models with latent variables and measurement errors.

In its most general form the model assumes that there is a causal structure among a set of latent variables. The latent variables appear as underlying causes of the observed variables. The LISREL program produces estimates of the various coefficients in the model, computes their standard errors, and calculates a goodness-of-fit statistic between the variance-covariance matrix or the correlation matrix implied by the model and that observed in the sample [23,24].

FINDINGS

Correlations

Table 1 indicates the Pearson Product Moment Correlations for the variables in the model. Only the significant correlations will be discussed here.

The two knowledge of credit indicators are positively correlated (.28). The two credit practices indicators have a correlation of .32.

TABLE 1. Pearson Product Moment Correlation Matrix

	1	2	3	4	5	6	7	8	9
1. Knowledge (1)	1.00								
2. Knowledge (2)	.28***	1.00							
3. Amount Household Feels Comfortable Owing	.21**	.12	1.00						
4. Number of Credit Cards	.29***	.17*	.20**	1.00					
5. Frequency of Paying Finance Charges	.24**	.19**	.29***	.32***	1.00				
6. Education of the Money Manager	.15*	.32***	.14*	.27***	.14	1.00			
7. Age of the Money Manager	.01	-.21***	-.10	-.02	-.23**	-.28***	1.00		
8. Household Size	.20**	.03	.08	.10	.20**	.01	-.25***	1.00	
9. Household Income	.21**	.15*	.23**	.18*	.07	.24***	-.09	.25***	1.00

***$p<.001$
**$p<.01$
*$p<.05$

When the money manager has a high score on the first indicator of knowledge, the household feels comfortable owing more on credit cards at one time. With a high score on the first indicator of knowledge, the household also has a greater number of credit cards it uses, the household size is larger, the household income is larger, and the education of the money manager is higher.

When the score for the second indicator of knowledge is high, the household uses more credit cards, pays finance charge payments more frequently, has a higher household income, and the money manager has a higher education. However, the older the money manager is the lower the money manager's score on the second indicator of knowledge.

As the amount the household feels comfortable owing on all credit cards at one time increases, the number of credit cards used increases, the frequency of finance charges paid increases, the household income increases, and the education of the money manager is higher. As the number of credit cards used increases so does the frequency of paying finance charges.

As the education of the money manager increases, the number of credit cards used also increases. Younger money managers and larger households more often pay finance charges on credit cards. The older money managers are less educated and have smaller households. The higher the household income, the larger the household size.

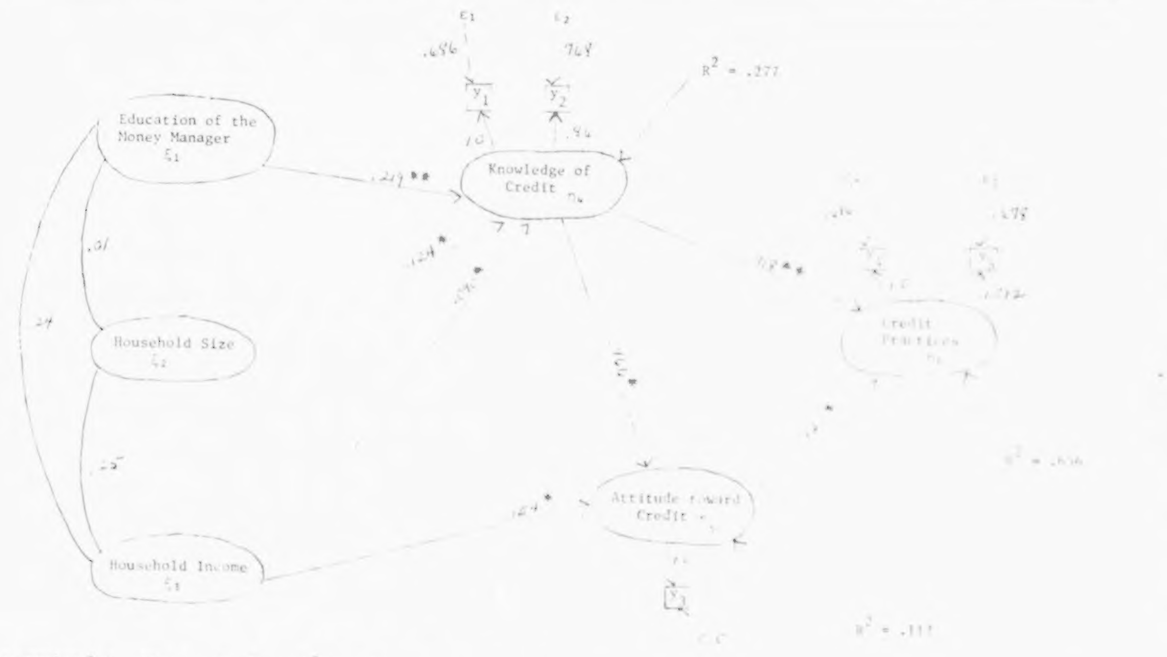
Path Analysis

The correlation matrix from Table 1 is the input matrix to the LISREL V program. Each correlation coefficient is based on 198 cases. On the basis of Pearson correlations, Figure 2 presents the standardized maximum likelihood parameter estimates for the proposed model. This initial iteration produced a model with X^2=35.82, df=11, p=0.000. The value of X^2 relative to the degrees of freedom, indicates that the proposed model did not fit the data well. The difference between the observed correlation matrix and that resulting from the hypothesized model was statistically significant.

The accepted procedure in such a situation is to iteratively relax constrained parameters which cause stress in the fit. This procedure is effectively the same as fitting a less restrictive model. As each constraint is relaxed, the X^2 associated with the model will decrease. At the same time, the degrees of freedom will decrease. Figure 3 presents the standardized maximum likelihood parameter estimates for the reduced model. The estimates in this reduced model are discussed here.

Age of the money manager was eliminated from the reduced model because there were no significant paths to any of the endogenous variables in the fully recursive model. Education of the money manager, household size, and household income are

FIGURE 3. Reduced model after estimation.



* = t-value ≥ 2, ** = t-value ≥ 3; R² for the entire model = .294.

significantly related to knowledge of credit. Those variables predict 27.7 percent of the variance of knowledge of credit. The lambda value of the first indicator of knowledge is 1 and the lambda value for the other indicator is 0.86. This fact means that the two indicators of knowledge of credit have a similar impact in explaining knowledge of credit.

One of the features of a LISREL model is that it can separate the true score variance from the error variance. The true score variance is the proportion of variance explained by the observed variable. The error variance is the sum of the specific (unique) variance not accounted for by the latent concept plus random variance due to measurement error.

The true score variance for the first indicator of knowledge is 0.314, and it is 0.232 for the second indicator of knowledge of credit. The error variance for the first indicator of knowledge is 0.686; it is 0.768 for the second indicator of knowledge of credit. The fact that the error variance is high is an indication that there is still work to be done to perfect the measurement of the concept.

Household income is the only exogenous variable that is significant for attitude toward credit. There is a significant relationship between knowledge of credit and attitude toward credit. The beta weight is 0.466. The R^2 for attitude toward credit is .117. Only one indicator is used for attitude. Because there is only one indicator of the concept, the true score variance is 1.0 and the error variance is equal to 0.

Two indicators are used to measure credit practices. The frequency of payment of finance charges has a value of 1 and the number of credit cards used has a value of 1.012. These results indicate that the number of credit cards used by the household explains slightly more about credit practices than does the frequency of payment of finance charges. The true score variance for the frequency of finance charge payments is 0.314 and for the number of credit cards used, it is 0.322. The error variance for the former indicator is 0.686, and for the latter indicator, it is 0.678.

There are significant paths from knowledge of credit practices and from attitude toward credit to credit practices. The R^2 for credit practices is 0.656.

The total coefficient of determination for the structural equations is similar to an index of the amount of variation explained in the total model. It is analogous to a cumulative or overall R^2. The total coefficient of determination for the structural equations in this model is 0.294.

Only the direct effect of the antecedent variables on the dependent variable in the path model are depicted in Figure 3. The decomposition of the total effects into the direct and indirect effects indicated that although many of the exogenous variables did not have direct effects upon attitude toward credit or credit practices, there are indirect effects.

There is an indirect effect of education of the money manager (0.102), household size (0.058), and household income (0.042) upon attitude toward credit that is mediated through knowledge of credit.

There is also an indirect effect of education of the money manager (0.170) and household size (0.096) upon credit practices that is mediated through knowledge of credit.

Income (0.088) indirectly affects credit practices through both knowledge of credit and attitude toward credit. Knowledge of credit not only has a direct effect upon credit practices (0.718) but knowledge of credit (0.056) has an indirect effect upon credit practices that is mediated through attitude toward credit.

Goodness-of-fit Measures

Having examined the parameter estimates, one needs to assess the extent to which the proposed model fits the data. Several measures of goodness-of-fit were used (Table 2).

TABLE 2. Measures of Fit

	Full Recursive Model df=11	Reduced Model df=14
X^2	35.816	22.920
Probability	0.000	0.062
X^2/df	3.256	1.637
CN	126.958	221.081

According to the likelihood ratio, neither the fully recursive nor the reduced model fit the data well. With 11 degrees of freedom, the probability of the fully recursive model is zero and with 14 degrees of freedom, the probability of the reduced model is slightly above zero (0.0620). Given that the likelihood ratio test is very sensitive to sample size, a more appropriate fit index would be one that is not affected by the sample size.

The relative likelihood ratio, the ratio between X^2 and its degrees of freedom (ie., X^2/df), partially offsets the impact of sample size. Ratios of approximately 2 to 1 or 3 to 1 are considered indicative of an acceptable fit [4]. Applying this criterion, the fully recursive model has a ratio of 3.256 indicating a better fit is possible, but the reduced model has a ratio of 1.637, indicating an adequate fit.

The goodness-of-fit of the models was also evaluated by applying Hoelter's critical N or CN [16]. This measure is based on determining the sample size required to accept statistically a model at a certain specified level of significance. When only one group is involved in the analysis, a CN of 200 or more is indicative of an adequate fit. The CN for the fully recursive model is 126.958 which indicates the model does not fit the data well. However, the CN for the reduced model is 221.081 which is more than adequate. Using the results of these goodness-of-fit measures, it is clear that the reduced model suggests a successful fit between the proposed causal structure and the observed correlation matrix.

SUMMARY AND CONCLUSIONS

The findings of this study indicate a positive relationship between knowledge of credit and attitude toward credit, between knowledge of credit and credit practices, and between attitude toward credit and credit practices. Four exogenous variables were initially included in the model: education of the money manager, age of the money manager, household size, and household income.

Since the four endogenous variables previously had not been investigated in one model, a fully recursive model was first analyzed. After several constraints were relaxed and after using several goodness-of-fit measures, it was determined that the reduced model fit the data well. Age of the money manager did not have a significant path to any of the endogenous variables in the fully recursive model, so it was dropped from the reduced model.

Education of the money manager, household size, and income had significant paths to knowledge of credit. Household income also had a significant path to attitude toward credit. None of the exogenous variables were significantly related to credit practices. There were, however, some indirect effects upon attitude toward credit and credit practices.

More research is needed that investigates the causal relationships among knowledge of credit, attitude toward credit, and credit practices. Different indicators might be utilized for each of the endogenous variables to see if similar results are obtained.

Findings of this study might be of interest to financial counselors and educators. The results suggest some emphases to include in programs. Household financial management practices and in particular, credit practices, are very important in the determination of the financial status of households. Increasingly, more and more consumer transactions have some involvement with credit. As a result, financial counselors and educators have seen that households with similar resources can have different financial statuses, depending upon their credit practices.

The purpose of financial counseling is to improve the financial practices that have caused the client problems, and the purpose of the financial management courses is to develop practices that will prevent such problems. It is essential, then, for those professionals to know what factors influence credit practices.

Results of this study provide some information in that regard. It is concluded that credit practices are influenced by knowledge of credit. By increasing knowledge on various aspects of consumer credit, credit practices can be improved. According to these results, increasing the knowledge level not only will influence credit practices, it will also, in turn, effect the attitudes toward credit.

In addition, an individual's attitudes toward credit influence credit practices. Educators and counselors might take note that their educational efforts and materials should emphasize attitude development and attitude change. Just providing knowledge will not be enough to influence credit practices.

Financial counselors who work with families in crisis situations can utilize this information, as well. Understanding clients' attitudes toward credit might be helpful in developing credit repayment plans. The success rate of their counseling efforts will be affected by the extent to which they help the client sort through their attitudes toward credit.

The results also suggest some groups in which to target programs. There is evidence from this study that indicates that they might be targeted at individuals who have low levels of education and who come from low income households.

REFERENCES

1. Awh, R. Y. and D. Waters. "Discriminant Analysis of Economic, and Attitudinal Characteristics of Bank Charge Card Holders: A Case Study," Journal of Finance 29(1974):973-980.

2. Brandt, W. K., G. S. Day, and T. Deutscher. "Information Disclosure and Consumer Credit Knowledge: A Longitudinal Analysis." The Journal of Consumer Affairs 9(1975):15-32.

3. Caudle, A. H. Financial Management Practices of Employed and Non-employed Wives. Unpublished Ph.D. Dissertation, Florida State University, 1962.

4. Carmines, E. G. and J. P. McIver. "Analyzing Models with Unobserved Variables: Analysis of Covariance Structures," in G. W. Bohrnstedt and E. F. Borgatta (eds.), Social Measurement: Current Issues. Beverly Hills: Sage Publications, 1981.

5. [illegible], L. Effects of Credit Use on the Level of Living as Perceived by Wives. Unpublished Master's Thesis, Iowa State University, [illegible].

6. Dunkelberg, W. C. and F. P. Stafford. "Debt in the Consumer Portfolio: Evidence from a Panel Study." The American Economic Review 61(1971):598-613.

7. Durkin, T. A. "Consumer Awareness of Credit Terms: Review and New Evidence." The Journal of Business 48(1975): 253-263.

8. [illegible], M. L. [illegible] Problems of Young Homemakers [illegible]. Unpublished Master's Thesis, Oregon State University, 1969.

9. Garcia, G. "Credit Cards: An Interdisciplinary Survey." Journal of Consumer Research 6(1980): 327-337.

10. Golden, W. A. A Study of Financial Management Practices of Selected Urban Couples Receiving Old Age Assistance." Unpublished Master's Thesis, University of Tennessee, 1966.

11. Guadagno, M. A. N. A Systems Approach to Family Financial Management: Implications for Family Research. Paper presented at the National Council on Family Relations, Milwaukee, 1981.

12. Hendricks, G., K. D. Youmans, and J. Keller. Consumer Durables and Installment Debt: A Study of American Households. Survey Research Center, Institute of Social Research, University of Michigan, 1973.

13. Hill, R., "Judgement and Consumership in Management of Family Resources." Sociology and Social Research 47(1963): 446-460.

14. Hira, T. K. "Socio-economic Characteristics of Families in Bankruptcy." Canadian Home Economics Journal 32(1982):26-31.

15. Hirschman, E. C. and J. L. Goldstucker. "Bank Credit Card Usage in Department Stores: An Empirical Investigation." Journal of Retailing 54(1978): 3-12.

16. Hoelter, J. W. "The Analysis of Covariance Structures: Goodness-of-Fit Indices." Sociological Methods and Research 11(1983):325-344.

17. Hoerman, C. N. "The Management and Use of Credit Cards." Family Economics Review Summer(1977):8-11.

18. Hunsley, B. C. Managerial Orientation and Its Effects on Level of Living. Unpublished Master's Thesis, Iowa State University, 1976.

19. Hull, K. B. Differences in Consumer Credit Attitudes, Knowledge and Experiences among Married and Non-married in Des Moines, Iowa. Unpublished Ph.D. Dissertation, Iowa State University, 1978.

20. Jackson, D. P. Life Cycle Squeeze, Adaptive Strategies and Perception of Consumption. Unpublished Master's Thesis, Iowa State University, 1978.

21. Joreskog, K. G. and D. Sorbom. LISREL: Analysis of Linear Structural Relationships by the Method of Maximum Likelihood, Chicago, IL: International Educational Services, 1981.

22. Kinsey, J. and R. McAlister. "Consumer Knowledge of the Costs of Open-end Credit. The Journal of Consumer Affairs 15(1981):249-270.

23. Long, J. S. Confirmatory Factor Analysis: A Preface to LISREL. (Series No. 07-033). Beverly Hills: Sage Publications, 1983.

24. Long, J. S. Covariance Structure Models: An Introduction to LISREL. (Series No. 07-034). Beverly Hills: Sage Publications, 1983.

25. Mandell, L. "Consumer Perception of Incurred Interest Rates: An Empirical Test of the Efficacy of the Truth-in-Lending Law." The Journal of Finance 26(1971):1143-1153.

26. ____________. "Consumer Knowledge and Understanding of Consumer Credit." The Journal of Consumer Affairs 7(1973):23-36.

27. Money Magazine. "Americans and their Money 2." Time, 1984.

28. Mors, W. P. "An Argument against Abridging Consumer Right of Bankruptcy." The Journal of Consumer Affairs 6(1972): 120-136.

29. Mueller, M. J. A Managerial Systems Approach to Money Management Practices Influencing Household Solvency Status. Unpublished Master's Thesis, Iowa State University, 1983.

30. Parker, G. G. C. and R. P. Shay. "Some Factors Affecting Awareness of Annual Percentage Rates in Consumer Installment Credit Transactions." The Journal of Finance 29(1974):217-225.

31. Preisz, L. H. An Investigation of Credit Usage among Young Married Couples in Western Oregon. Unpublished Master's Thesis, Oregon State University, 1970.

32. Pulley, M. A. Financial Management Practices of a Selected Group of Retired Couples. Unpublished Master's Thesis, Oregon State University, 1973.

33. Richards, L. G. "Consumer Practices of the Poor." In L. M. Irelan (ed.), Low-income life styles. U. S. Department of Health, Education and Welfare, Division of Research, Washington, D.C.: U. S. Government Printing Office, 1967.

34. Romino, I. Financial Management Practices of 52 Couples with Teenage Wives in Baltimore County, Maryland. Unpublished Master's Thesis, Pennsylvania State University, 1970.

35. Ryan, M. E. An Analysis of Economic and Demographic Characteristics of Consumers Associated with Excessive Installment Debt. Unpublished Master's Thesis, University of Minnesota, 1968.

36. Ryan, M. E. and E. S. Maynes. "The Excessively Indebted: Who and Why." The Journal of Consumer Affairs 3(1969): 107-126.

37. Samuels, B. J. Knowledge and Use of Consumer Credit by Urban Wives. Unpublished Master's Thesis, Iowa State University, 1976.

38. Slocum, J. W., Jr. and H. L. Mathews. "Social Class and Income as Indicators of Consumer Credit Behavior." Journal of Marketing 34(1970):69-74.

39. Symthe, K. D. "Family Use of Credit." Family Economic Review March(1970):17-19.

40. Tippett, K. S. "Trends in Consumer Credit." Family Economics Review December(1971):7-10.

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CONSUMER CREDIT USE AND AGE:
AN ANALYSIS OF THE EFFECTS OF PRERETIREMENT

Helen H. Jensen and Sandra W. Reynolds[1]

ABSTRACT

The selection and use of credit by households with heads age 55-64 provides information on how consumers make financial decisions to the traditional retirement period. The analysis examines the effect of sociodemographic, economic, and attitudinal variables on open-end and closed-end credit use. The significance of factors affecting credit use depends on the type of credit. Those 50-65 differ from those over 65 only in the use of closed-end credit.

Changing population trends and an increase in the number of older citizens have led to increased research on the economic behavior and levels of well-being of the elderly. However, relatively little attention has been paid to the preretirement period and whether these consumers' planning and adjustments are consistent with the economic models of savings and dissavings over the life cycle. This study investigates the economic choice of household heads 55-64 years of age, in particular the choice of whether or not to use credit.

Credit allows consumers to move resources from one time period to another. Thus, understanding of credit behavior provides evidence on a household's willingness to trade off income among periods. For those facing retirement, this indicates preference for willingness to incur financial obligations which may last into the future, retirement years. This study evaluates credit use in the context of sociodemographic, economic, and attitudinal variables. The study is based on the data from the Federal Reserve's 1977 Consumer Credit Survey [4]. It is important to note that many of those who were in preretirement in 1977 are retired today. Those directly advising consumers should benefit from better knowledge of factors associated with credit use as they assist in planning for the future; future expectations bear heavily on present actions.

BACKGROUND

Many of the studies of the role of credit in household decision-making date back to the work of Fisher (1930). The household is able to increase its set of opportunities by trading resources between periods. Borrowing increases present resources; lending or saving increases future resources[10]. Patterns of inter-temporal exchange of resources are linked to stages in the life cycle by Ando and Modigliani (1963).They, and later researchers, investigate a life cycle theory of savings, where the predominant effects of intertemporal allocation are seen within the life cycle, or by age distribution [13]. Individuals borrow during early working years, save during peak-earning years, and use up savings during retirement years. Thus, the "preretirement" period is predicted as one of high savings and low levels of borrowing.

Recent studies have challenged the dissavings during retirement [3,12]. It appears, at least for those under 75, that there is not a marked increase in drawing down of previous savings. However, this is still an open question [6]. Because of the significant growth in population over the age of 60, patterns of consumption, savings, and resource allocation are significant issues.

The use of credit itself represents a willingness to exchange resources across time periods, in a manner similar to that of savings. Many studies identify decreased credit use and an unwillingness to borrow at "older" ages [2,7,11].

In general, credit studies show that income is the most significant determinant of credit use. Credit card users are more likely to be better educated, in the highest social classes, and to be younger families with children. Installment purchase debts are less likely among older person. However, less is known about the critical decisions of the preretirement period, and whether "young" older people differ in their use of credit from "older" people. This study examines the credit usage of older households in an effort to understand differences in the decisions of elder households at different age levels.

METHODS OF ANALYSIS

Data Source

The data used in these analyses were obtained from the Federal Reserve Board's 1977 Consumer Credit Survey [4]. The survey reported on the purchase, credit, and financial practices of 2,563 households.

Dependent Variables

The focus of this research lies in determining factors related to the use or non-use of credit, with particular attention to the practices of those in the preretirement period. Dependent variables relating to the use of credit form two discrete categories which are assigned a value of one (1) when credit was used, and zero (0) when no credit was used. Any credit, open-end credit, and closed-end credit use were all examined.

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Although the Truth in Lending Act does not define closed-end credit, it defines open-end as that credit which allows customers to engage in credit transactions from time to time. Types of open-end credit include credit cards, charge accounts, retail revolving credit, and check overdraft arrangements. These credit accounts allow the customer to pay the current outstanding balance and then use the plan again in the future to obtain new advances.

"Credit other than open-end," that is, closed-end credit, refers to all other types of available credit. Examples include new and used automobile loans, loans for appliances and furniture, home improvements, personal loans, and time notes. Also considered closed-end credit are demand obligations in which the consumer receives a lump sum with no right to future credit. Many of these are classified as installment credit which refers to loans paid in two or more payments.

For the purpose of this study, we have used the subdivisions consistent with the 1977 Consumer Credit Survey. Once it was confirmed that the subjects used (1) or did not use (0) credit for purchases, the use of credit was divided into open-end and closed-end categories. By definition, open-end use of credit in this study was the use of credit cards and charge accounts.

Independent Variables

Several independent variables were used to explain the use or nonuse of credit. These include age, income, household characteristics, assets, and an index of attitudes toward credit.[2] The variables are listed on Table 2. All variables except number in household and assets are expressed as categorical variables.

A major focus of this study was to determine if there were any differences in the use of credit between the preretirement cohort, age 55-64 years, and other age groups, especially those older. Age categories were defined as households headed by individuals less than 25 years old, 25-49 years old, 50-54 years old, 55-64 years old, 65-74 years old, and 75 years and older.

Based on theoretical considerations and earlier studies, we expected older households in general to use less credit than others. In addition, we expected income, education, being retired and having more assets to be negatively associated with credit use; and being married, having a larger household, being a homeowner, and having a positive attitude about credit to be positively associated with credit use.

Model

The dependent variables of credit use and their relationship to the explanatory variables are described in the following model:

$$\begin{array}{lcl} \text{Likelihood} & & \\ \text{of using} & = & f(\text{Sociodemographic} \\ \text{Credit} & & \text{characteristics, Income,} \\ & & \text{Assets, Attitudes}) \end{array}$$

The model was evaluated using multivariate logit analysis.

ANALYSIS OF RESULTS

Credit Use

Table 1 shows a distribution of open-end, closed-end, and any credit use by age of the household head and income of the total family unit. In 1977, 76.9 percent of the households in the sample were using some form of credit, whether it be open or closed-end; 60.7 percent had used some form of open-end credit, while 51.7 percent of the sample used closed- end credit.

Over 82 percent of those family units whose head was in the group from 55-59 years of age had some form of credit, second only in use to those whose head was 25-29 years of age, where 88.0 percent had used credit in the past year and a half. For those over 60 years of age there was a decided drop in use of credit: 82.5 percent of those 55-59 years of age, and only 64.3 percent of those in the 60-64 age group used credit. The drop in usage was greatest for closed-end credit after the age of 60.

Open-end credit was more widely used than closed-end credit in all cases except where 15-24 years old were heads of households, as would be expected. Credit granting policies would prohibit younger adults from obtaining credit cards.

There was a steady increase in the percentage of families using credit as family income increases. Those families in the higher income brackets had greater use of credit in general. However, the use of closed-end credit declined for those with incomes greater than $25,000.

Logit Analysis

The multivariate logit analysis assists in determining the significance of factors independent of the effects of other variables. It is appropriate for evaluating discrete choices [9]. Here, it is used to examine determinants of credit usage.

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[2] An index of attitudes toward the use of credit was constructed by summing the number of "yes" responses to a series of questions on whether it was all right for someone like yourself to borrow money for different reasons. The sums (ranging from 0 to 9) were grouped as unfavorable attitude (0-2), somewhat favorable (3-5), and favorable (6-9) [8].

The results of the logit analysis for any credit, open-end credit, closed-end credit uses are shown in Table 2. The independent variables are listed with their estimated coefficients and asymptotic standard errors. Detailed at the end of each table are the likelihood ratio statistic and the likelihood ratio index [9]. The likelihood ratio statistic, distributed with chi-square distribution, is used to test the hypothesis that all coefficients are equal to zero. In each case the hypothesis was rejected. The likelihood ratio statistic is significant at the one percent level for each estimated model. The likelihood ratio index (also called rho-squared) is similar to the R^2 in regression analysis. It measures how well the model approximates the observed data.

Logit coefficients do not indicate magnitude, unlike those coefficients in regression analysis. The quantitative effect cannot be shown in comparing two variables, however the ranking of the coefficients in groups is meaningful and the signs of the coefficients can be interpreted. Asymptotic t-test ratios, calculated by dividing the estimated coefficient by the asymptotic standard error (ASE), determine the significance of the explanatory variables at .05 and .01 levels.

The estimation of the likelihood of using any credit showed that only those households having heads greater than 75 years were significantly different from the preretirement group (age 55-64). Individuals over 75 years were less likely to use any form of credit. All other age groups were not significantly different in use of some form of credit from the 55-64 years group. Thus, the use of credit, viewed as a composite, in general decreases significantly only at relatively higher age levels.

The distinction between use of open-end and closed-end credit are important to note, however, since the patterns of usage are different and may be masked in the composite analysis. In the use of open-end credit, the youngest age group, less than 25 years old, was significantly less likely to use that form of credit than the preretirement cohort. They would be expected to have limited access to this form of credit. Again, those greater than 75 years were also less likely to use credit cards and other forms of open-end credit, however the estimated coefficient was not significant at the .05 level.

Closed-end, installment forms of credit produced the most significance among the individual age variables. Those greater than 65 years were significantly less likely to have this credit than those age 55-64. Individuals less than 50 years are significantly more likely to use closed-end credit. Being younger, they acquire more large installment purchase items in the earlier stages of the life cycle.

Individual income variables were found to be significant for all types of credit. As would be expected, families with earnings less than $10,000 a year were significantly less likely to have any form of credit than those in the $15,000-$24,999 range. It is interesting to note that those in the $10,000-$14,999 range were also less likely to have open-end credit. Lower income level families may be able to acquire high interest rate, long term loans when they are unable to qualify for credit cards. As income increases, a family's use of any credit becomes more likely. Again, there were differences between open-end and closed-end credit. Those in the $25,000-49,999 category were more likely to have open-end credit compared to those with incomes of $15,000-24,999.

Life-cycle variables include age, marital status, family size, and number of children in the household. The following discussion considers the life-cycle variables other than age. The probability of having all types of credit was significant when the head of the household was married. As the number of individuals included in the family unit increased, the household was significantly more likely to use open-end credit. The presence of children in the family was significant only in the case of closed-end credit. This is consistent with families with children being in the earlier stages of the life cycle and accumulating household durables.

Contrary to expectations, it was found that women head of household units were significantly more likely to have some use of credit than male headed households, though specifically only in open-end credit use. This could be a result of more single heads of households being female and greater entry of females into the workforce, thereby qualifying for extension of credit. Alternatively, this type of credit, which includes retail store credit cards, may be an easier type of credit for which female heads qualify.

As the level of education increased the probability of the use of any credit increased. The effect of this factor was significant at the extreme levels, i.e., for those with less than nine grades of schooling, and for those with advanced degrees. The effect of education was apparent most clearly in the use of open-end credit where all levels of education had a significant effect on use. Those attending between 9-11 years of school were less likely to use open-end credit than all others. Those with more education than a high school degree used more open-end credit.

Home ownership with a mortgage significantly increased the probability of using any credit, both open- and closed-end. In part, this might reflect access to credit markets, and experience with credit markets currently, or in the past. Owners without a mortgage were no different than renters in credit use.

Unfavorable attitudes led to significantly lower use of any kind of credit. Although it may be that those using credit would not report an unfavorable attitude, the estimated coefficients were relatively stable whether this variable was included or not.

Finally, as assets increase, individuals were less likely to use closed-end credit. This was as expected since assets offer a reserve to meet large expenditures in the future. Those with more assets do not need to borrow to finance major expenditures. In contrast, credit cards, a major form of open-credit, offer convenience as well as deferral of payment. The estimated effect of assets here was not significant.

Evaluating the significance of contributions of selected groups of variables assists in interpreting their importance in explaining credit use. A likelihood ratio statistic was used to evaluate the full and reduced models, omitting groups of variables in the reduced form. Age, as a group, was a significant determinant of closed-end credit use at the .01 level. Income was a significant factor determining all types of credit use. Education levels, as well as social status variables (including both education and income), were significant at the .01 level for any credit use and open-end credit. Life cycle variables (encompassing age, marital status, family size, and the presence of children under 18 years) were also significant as a group in explaining open-end credit use.

Testing Population Subgroups: The Retired vs. Those Not Retired

Results from the logit analysis were used to test for the difference between coefficients of those individuals who were retired and those not retired. This test was limited to an estimation of the model for those individuals 50 years and older. The log likelihood of each of the two groups of those 50 and older (retired, not retired) and the log likelihood of the pooled data from both groups were calculated. The test statistic, calculated as $-2\left[(\text{log likelihood}_A + \text{log likelihood}_B) - (\text{log likelihood pooled})\right]$ is distributed as a chi-square. The test results are shown on Table 3 and indicate no significant differences between those retired or not. Hence, among those over 50 years old, retirement itself has no significant influence on determinants of use of credit, even taking into account closed- versus open-end credit.

Further testing of differences was studied by age. That is the set of those over 50 was divided into groups, one group was the group 50-64 years, and the other, those 65 years and older. Table 3 shows there was a significant difference in describing the use of closed-end credit, but not for the use of open-end credit. This suggests age differences are particularly important to take into account in predicting use of closed-end credit. Open-end credit use, which serves a function for convenience as well as credit per se, was no different for those under 65 compared to those older.

CONCLUSIONS

This analysis shows that age is an important factor in determining closed-end credit usage. This is consistent with the life cycle hypothesis of saving, and opportunities for inter-temporal distribution of resources. The results are also consistent, however, with empirical evidence which shows a lack of marked change in consumption patterns for elders, in general. In particular, "younger" elders differed from those older only in the use of closed-end credit. Retirement itself, did not differentiate the groups in credit use.

The significance of different uses of closed-end credit shows that the willingness to take on debt is different for those age 50-64 compared to those older. Older consumers appear unwilling to assume the fixed obligations of closed-end credit. They may use open-end credit for convenience, not credit per se. The lack of distinction between retired versus non-retired households, holding income and other factors constant, suggests that it is age effects and thus expectations of (perhaps) similar life cycle, as opposed to the effect of not working that affects closed-end credit behavior. Certainly, lack of interest in closed-end credit among those over 65 is important to consider in advising older consumers considering home equity borrowing. They may be interested in the line of credit option, but not interested if framed as additional debt obligation.

Table 1. Use of Credit By Household Characteristics, 1977

Household Characteristic	Type of Credit Use Open-End Credit	 Closed-End Credit	 Any Type of Credit
	-----------Percent----------		
Age of Head (years)			
16-24	40.4	65.8	75.6
25-49	69.5	68.2	88.0
50-54	67.5	50.6	81.9
55-59	67.2	51.1	82.5
60-64	54.8	31.2	64.3
65-74	50.0	17.2	57.1
75-94	33.7	6.7	38.0
Chi-square	153.84*	462.99*	317.63*
Family Income (dollars)			
less than 3,000	23.7	21.8	39.1
3,000 - 4,999	23.9	32.6	48.4
5,000 - 7,499	34.7	41.9	63.1
7,500 - 9,999	51.1	58.0	78.1
10,000 - 14,999	64.0	60.4	84.5
15,000 - 19,999	74.3	66.9	88.0
20,000 - 24,999	82.1	68.7	91.2
25,000 - 49,999	90.4	62.7	96.1
50,000 or more	92.0	45.3	94.7
Chi-square	499.30*	251.22*	409.96*
Total	60.7	51.7	76.9

*Statistically significant at the .01 level.

Table 2. Estimated Coefficients From Logit Analysis

Independent Variable	Any Credit Use		Open-end Credit		Closed-end Credit	
	Coefficient	A.S.E.[1]	Coefficient	A.S.E.[1]	Coefficient	A.S.E.[1]
Age of Family Head (55-64 years)[2]						
Less than 25 years	.259	.266	-.736**	.236	.874**	.229
25-49 years	.237	.209	-.050	.186	.385**	.163
50-54 years	.039	.255	.099	.228	-.067	.197
65-75 years	.001	.218	.329	.218	-.853**	.227
Greater than 75 years	-.626*	.274	-.267	.284	-1.584**	.405
Family Income (15,000-24,999)[2]						
Less than 10,000	-.839**	.180	-1.26**	.152	-.412**	.151
10,000 - 14,999	-.018	.201	-.394**	.152	.015	.152
25,000 - 50,000	.819**	.342	.568**	.229	-.138	.171
Greater than 50,000	.724	.583	.517	.465	.128	.329
Marital Status (Not Married)[2]	.982**	.195	.978**	.186	.527**	.177
Number in Family Unit	.039	.645	.155**	.053	.051	.050
Children in Family (No child <18 years)[2]	.176	.213	-.127	.178	.475**	.159
Sex (Male)	.485**	.197	.659**	.194	-.050	.189
Education (High school graduate)[2]						
Less than grade 9	-.361*	.181	.963**	.167	.189	.174
Grades 9 - 11	-.324	.176	-.415**	.152	-.118	.158
College Graduate	.323	.190	.593**	.156	-.015	.147
Advanced Degrees	1.020**	.257	1.248**	.200	-.038	.158
Housing Tenure (renter)[2]						
Owner with Mortgage	.772**	.174	.848**	.139	.530**	.135
Owner without Mortgage	.0002	.168	.241	.155	-.171	.157
Race (Caucasian)	-.137	.174	-.184	.156	.254	.154
Occupation (Not Retired)[2]						
Retired	-.253	.183	-.179	.180	-.114	.186
Index of Attitudes (Somewhat Favorable)[2]						
Unfavorable	-.855**	.164	-.576**	.162	-1.005**	.169
Favorable	.146	.114	.055	.119	.302**	.111
Assets (000)	-.001	.002	.002	.002	-.013**	.002
Constant	.595	.307	-.460	.276	-.481	.258
Number of Observations	2216		2216		2216	
Likelihood Ratio Statistic	547.650**		736.080**		679.580**	
Likelihood Ratio Index	.239		.251		.223	

[1] Asymtotic Standard Error
[2] The omitted category is defined parenthesis ( ).
*Statistically significant at the .05 level
**Statistically significant at the .01 level

Table 3. Differences in Use of Credit by Retirement Status and Selected Age Groups

Age/Retirement Status	Log Likelihood Index Statistic		
	Open-End Credit Use	Closed-End Credit Use	Any Credit Use
Greater than 50 yrs Retired vs. not Retired (df=20)	18.02	24.04	13.64
Greater than 50 yrs 50-65 yrs vs >65 yrs (df=19)	13.26	43.78*	14.24

*Statistically significant at the .05 level.

REFERENCES

1. Ando, Albert and Modigliani, Franco. "The Life-Cycle Hypothesis of Saving: Aggregate Implications and Tests." American Economic Review, Vol. 53, No. 1 (1963), pp. 55-84.

2. Chen, Alexander and Jensen, Helen H. "Home Equity Use and the Life Cycle Hypothesis." Journal of Consumer Affairs, Vol. 19, No. 1 (Summer 1985), pp. 37-56.

3. Danziger, Sheldon, J. Van der Gaag, E. Smolensky, and M. Taussig. "The Life-Cycle Hypothesis and the Consumption Behavior of the Elderly." Journal of Post Keynesian Economics, Vol. V, No. 2 (Winter 1982-83), pp. 208-227.

4. Durkin, T. and Elliehausen, G. 1977 Consumer Credit Survey. Board of Governors of the Federal Reserve System. Washington, D.C.: U.S. Government Printing Office, (1978).

5. Fisher, Irving. The Theory of Interest. New York: Macmillan Co., 1930.

6. Hamermesh, Daniel S. "Consumption During Retirement: The Missing Link in the Life Cycle." Review of Economics and Statistics. Vol LXVI, No. 1 (February 1984), pp. 1-7.

7. Heck, Ramona K. Z. "The Determinants of Consumer Choice in Financing Purchases." Research paper no. RP83-7, Department of Consumer Economics and Housing, Cornell University, 1983.

8. Hendricks, Gary and Youmans, Kenwood C. with Janet Keller. *Consumer Durables and Installemtn Debt: A Study of American Households.* Ann Arbor: Institute for Social Research, The University of Michigan, 1973.

9. Hensher, D. A. and Johnson L. W. *Applied Discrete Choice Modeling*. London: Croom Helm, 1981.

10. Herendeen, James B. "The Role of Credit in the Theory of the Household." *The Journal of Consumer Affairs*, Vol. 8, No. 2 (Winter 1974), pp. 157- 181.

11. Kinsey, Jean. "Determinants of Credit Card Accounts: An Application of Tobit Analysis." *Journal of Consumer Research*, Vol. 8 (September 1981), pp. 172-182.

12. Mirer, Thad W. "The Dissaving Behavior of the Retired Aged." *Southern Economic Journal* Vol. 46 (April 1980), pp. 1197-1205.

13. Thurow, Lester C. "The Optimum Lifetime Distribution of Consumption Expenditures." *American Economic Review*, Vol. 59, No. 3 (June 1969), pp. 324-330.

RENT-TO-OWN PROGRAMS: IS CONSUMER PROTECTION ADEQUATE?

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ABSTRACT

Rent-to-Own programs attract customers with claims of low payments and the promise of eventual ownership. In fact, customers could face an implicit APR of over 200 per cent. Because customers are technically short-term renters, disclosure provisions of the amended truth-in-lending law do not apply. Legislative remedies have been proposed, but disclosure might not be helpful if consumers lack options or if their time horizons are very short.

INTRODUCTION

Businesses which rent household equipment on a short-term basis are common in most communities. When a particular piece of equipment is used infrequently, renting offers an attractive, relatively inexpensive alternative to purchasing and maintaining the product.[2] In such cases, it is obvious that the consumer is paying for the services provided by the use of the item and not for the item itself (which would involve a claim on future services).

Lengthening the rental term (as is done with automobile leasing) does not change the situation. The contract for the use of the product simply covers an extended period. However, firms offering so-called rent-to-own programs are becoming increasingly common. These combine longer-term rentals with the possibility of ownership at the end of the rental agreement. Over 4,000 stores across the country now handle merchandise on a rent-to-own basis, with total volume over a billion dollars [9, p. 552].

The result is a paradox. Conceptually and legally, renting and owning are fundamentally different. Yet in practice, renting to own is similar to buying on credit. The juxtaposition of practical similiarities and legal differences creates the potential for confusion. That potential is often exploited in advertisements which stress low periodic payments and treat ownership as a costless bonus to the consumer.

Despite provisions of the Consumer Leasing Act of 1976, the potential for abuse remains. This paper explores that potential and examines the adequacy of existing protection in the context of costs to the consumer and present practices in the industry. The analysis concludes with a consideration of market conditions and the limitations of alternative intervention strategies.

The Cost of Renting to Own

The various rent-to-own programs operate similarly with an 18-month rental period being standard for the industry. Customers are not obliged to rent for that length of time, but those who do become the owners of the product. The possibility of ownership is stressed in advertisements for rent-to-own programs, as are claims of low weekly or monthly payments.

In fact, payments appear low only because of billing periods are short. It might be possible, for example to convince someone that renting a television set for $11.25 per week is inexpensive. The situation would likely change, however, when the person realized that payments over 78 weeks would total $878. Such figures are, in fact, representative.

A survey of nine rental agencies in the greater Atlanta area showed that weekly rental rates for identical 19" portable color television sets ranged from $11.25 to $15.55, with monthly rates from $40.00 to $54.20.[3] Table 1 presents a summary of weekly, monthly and total costs. Although rates are clustered, considerable variation is evident.

Table 1. Cost of Purchasing 19" Color Television Through Selected Rent-to-Own Plans*

#	Weekly	Total Cost	Monthly (18 mo)	Total Cost
1	$15.00	$1,170	$54.00	$ 972
2	11.25	878	40.00	720
3	15.55	1,213	54.20	976
4	15.00	1,170	49.00	882
5	14.00	1,092	46.00	828

*Stores located in metropolitan Atlanta, Georgia. Duplicate rates omitted. For details, see text.

The most notable feature of Table 1, however, is that total costs are high for all agencies sampled. A search of five retail outlets revealed a price range of $325-399 for the same set. Thus, a customer of the lowest-priced rental agency would still pay well over twice the highest retail price identified.

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[2] As with the gardener who rents a power tiller for the afternoon or a hostess renting 100 punch cups for a party.

[3] Television sets account for nearly half of all revenue generated by rent-to-own programs. As many as 10% of all television may be acquired in this way. Home appliances represent the second largest category [9, p. 52].

If rental fees are treated as installment payments, it is possible to calculate an implicit annual percentage rate (APR) using the standard formula for such purchases [5, p. 287].[4] Calculations are based on the lowest retail price: $325. The resulting APR's are startling (Table 2). The highest rates range above 200% for weekly payments and over 150% for monthly payments. By constrast, the consumer making minimum monthly payments on the low-priced retailer's revolving credit plan would face an APR of 21%.

Table 2. Imputed Annual Percentage Rates for Television Purchased through Selected Rent-to-Own Plans*

#	Total Cost (Weekly)	APR-Est[^]	Total Cost (Monthly)	APR-Est[^]
1	$1,170	206%	$ 972	167%
2	878	162	720	117
3	1,213	212	976	168
4	1,170	206	882	151
5	1,092	194	828	140

*Prices based on date in Table 1. Retail value of $325. Duplicate rates omitted. For details, see text.

[^] Imputed APR.

The figures in Table 2, of course, are merely hypothetical because the consumer is technically a renter. Thus, no credit is extended and no APR is involved. That is a critical point which exempts rental agencies from truth-in-lending requirements and state usury laws. It follows that although implicit rates are high, the agencies operate within the law.

During the rental period, service is provided by the rental agency. However, most items are new and covered by the manufacturer's warranty. It seems unlikely that service costs would represent a significant portion of the total cost.[5] One must conclude, then, that rent-to-own programs represent a very expensive option to the consumer.

The Current Structure of Consumer Protection

The Consumer Leasing Act: 1976

The Consumer Credit Protection Act of 1962 (Truth in Lending) covers only cases in which credit is actually extended, thus exempting rental or leasing agreements [3]. As it became evident that the latter were being used to avoid truth-in-lending requirements, pressure mounted to extend protection. The preamble of the Consumer Leasing Act of 1976 makes specific reference to these developments:

> The Congress also finds that there has been a recent trend toward leasing automobiles and other durable goods for consumer use as an alternative to installment credit sales and that these leases have been offered without adequate cost disclosures [4, Sec. 102 (2b)].

The Law amends the Truth-in-Lending Law to ensure "meaningful disclosure" on the terms of leases and rentals in order to:

1) promote comparisons among alternative leasing or rental agreements;

2) limit balloon payments;

3) promote comparisons between rental and credit terms; and

4) assure "meaningful and accurate disclosures of lease terms in advertisements" [4, Sec. 102 (2b)].

The 1976 Act requires that periodic and total costs of leasing or renting be clearly stated. More generally, it mandates that rights and responsibilities of both the leasee and leassor be made explicit [4, Sec. 182]. The information which must be provided clearly supports the Act's intended purpose of assuring "a meaningful disclosure" of the terms of leases.

At the time of the 1976 legislation was enacted, the major concern was with automobile leasing. Thus, the law was applied only to leases of over four months in duration. Most rent-to-own programs, however, extend contracts only a week or a month at a time. A representative contract reads as follows:

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[4] APR was calculated as follows:

$$\frac{M\ (95N + 9)F}{12N\ (N + 1)\ (4P + F)}, \quad \text{where}$$

M = number of payments in a year (=12 monthly or 52 weekly).

N = number of loan payments scheduled over life of loan (=18 m or 78 w).

F = total finance charges (=total cost - $325)

P = the principal amount of the loan (= $325).

[5] Officials for the Association of Progressive Rental Organizations, a trade organization, justify higher prices on the basis of greater risk that products will be damaged or lost. Product-loss write-offs are claimed to be six to eight times above the average for all retailers [7].

> (1) RENTAL TERM: This rental is for a term of one (week) (month) and expires ________. Renter is obligated to make only one rental payment and is in no way required to renew this Agreement. Renter may, however, renew this Agreement if Renter has complied with all its terms, by delivering payment to the Agency for the next rental period before the end of the current period [12, Capitalization follows original; company name omitted].

Thus, despite the emphasis on renting to *own*, the consumer is only offered a series of renewable short-term contracts. Eventual ownership may always be an option, but is never a requirement. Indeed, there is nothing said about ownership in the clause which actually commits the consumer to the rental. The consumer has no long-term obligation and the rental agent has no long-term responsibility.

The possibility of ownership is covered in the second clause of the contract:

> (2) TOTAL OF PAYMENTS: Renter is *not obliged* to pay this amount, but *if Renter elects to renew this Agreement* for ___ weeks or ___ months, Renter will have paid a total of $___ weekly or $___ monthly, and in that event, Agency will waive all of its right, privilege and title to the property in favor of Renter [12, Capitalization follows original; emphasis added, company name omitted].

It should be noted that the information provided meets all the provisions of the 1976 Act, using language which is relatively straightforward and unambiguous. Even so, however, it is not clear that the result in "meaningful disclosure." The manner in which the contract is structured focuses attention on periodic payments and away from total costs. The terms of the law are met in which amounts to a hypothetical manner. The "if-then" statement emphasizes the nonobligatory nature of the payment and the choice which the consumer retains. Thus, the basis on which such programs are promoted -- eventual ownership -- is treated in purely conditional terms.

The Role of Advertising

As noted, one of the purposes of the Consumer Leasing Act was to "assure meaningful and accurate disclosures of lease terms in advertisements." To that end, the Law stipulates that an advertisement which makes *any statement about payments* must go on to provide full disclosure about *all financial terms* in the rental agreement [4, Sec. 184(a); emphasis added]. Specifically, the law requires full disclosure if the advertisement mentions ". . . the amount of any payment, the number of required payments, or that any or no down payment or other payment is required at inception of the lease" [4, Sec. 184(a)].

If these provisions ofthe Law were applied to advertisements by rent-to-own programs, many advertising practices in the industry would have to be adjusted. For example, an advertisement for a rental firm which operates nationally states:

* NO CREDIT HASSLE

* NO SECURITY DEPOSIT

* NO LONG TERM OBLIGATION

* EASY WEEKLY OR MONTHLY TERMS [11]

A security deposit is in the category of "other payment required at the inception of the lease." Because it is noted that no deposit is required, the advertisement should go on to provide full disclosure. However, such information is not forthcoming.

The law does not actually apply because of the exemption of short-term leases. Even the spirit of the legislation, however, is regularly violated. The reference to "Easy Terms" in the advertisement above is typical, shifting attention away from the tremendously high figures on total cost reported earlier. As the mention of "credit hassles" suggests, advertising preys upon the fears of persons who may have had credit problems or are concerned about applying for credit.

At the most basic level, the advertisements tend to misrepresent rent-to-own programs. The advertisements foster the notion of an automatic link between *renting* or *owning*, through no such link exists. Thus, it is not even suggested that the renter has neither ownership rights nor equity until the *entire* set of 18 monthly (or 78 weekly) rental periods is complete.

Legislative Initiatives

As a result of these problems efforts are underway to amend the Consumer Leasing Act to provide for coverage of rent-to-own programs. Hearings were held in 1983 which documented abuses nationwide [14]. At this writing, S1152 is still pending before the Congress. The Proposed Consumer Lease and Rental-Purchase Act would simply extend coverage to rent-to-buy programs by abolising the four-month limitation in the 1976 Consumer Leasing Act, [14, Sec. 104 p. 6]. Otherwise, disclosure requirements follow the outline of the earlier legislation. Other provisions of the law focus on liability, repossession and residual value [14, Sec's. 111-16, pp. 7-16].

The major innovation in the proposed legislation concerns advertising. Section 117 of the Bill states:

> If an advertisement for a rental-purchase agreement refers to or states the amount of any payment *or the right to acquire ownership*, the advertisements must also clearly and conspicuously state the following items as applicable:
>
> (1) That the transaction advertised is a rental-purchase agreement.
>
> (2) The total payments necessary to acquire ownership.

> (3) That the consumer acquires no ownership rights if the property is not rented for the term required for ownership to transfer [14, Sec. 117, p. 17; emphasis added].

Enacting this provision of the legislation could alter the character of advertising for rent-to-own programs dramatically. Eventual ownership could no longer be characterized as a costless bonus to the consumer. The true costs involved would have to be made available to potential customers *before* they had progressed with their decision making processes [14, p. 36]. Given what appear to be questionable advertising practices by some firms in the industry, the advertising disclosure requirements offer the potential for significant benefit to consumers.

The Limitations of Policy

The proposed extension of the Consumer Leasing Law to cover rent-to-own programs is the most obvious policy response to the problems outlined above. One would like to think that extending the law would take care of the problem, that consumers would behave differently if only they were *truly* aware of the tremendous costs involved. Extending the law should certainly curb abuses, particularly with reference to advertising. Nevertheless, there is reason to doubt whether the amendments themselves represent a *solution* to the problem.

Even though it is not required, many leases now conform to the law. Yet even after they have been made aware of the high costs involved, increasing numbers of individuals still opt for rent-to-buy programs. One must therefore question the effectiveness of the required disclosure. The case illustrates again the limitations of conventional disclosure programs.

Those limits arise because providing information does not itself guarantee that the information will be utilized by consumers [2, 6, 8 & 13]. Even if consumers are able to process the information, they will not act upon it if it does not seem relevant to them. There are two reasons which suggest that those who rent to own may perceive the information to be irrelevant.

The first has to do with alternatives. As has been noted in the case of Truth in Lending, being aware of an alternative is of little value if one is not in a position to take advantage of it [2]. Rent-to-own programs target lower-income groups who are more likely to have poor credit histories or be fearful of applying for credit.

The advertisement noted above, with it emphasis on "No Credit Hassles," is typical. Another advertisement states: "RENT TO OWN! The Alternative to Credit!" This emphais is reflected by stories in trade publications which report firms' successes in renting to "credit-needy buyers" [10, p. 48]. It is indeed likely that individuals wholack access to credit would be drawn to rent-to-own programs for lack of an alternative.

The second reason relates to time horizon. As Andreasen noted, lower-income consumers tend (out of necessity) to have shorter time horizons [1, p. 180-83]. Faced with income uncertainty and other immediate pressures, their tendency would be to focus on immediate concerns and discount even short-term events heavily.

Recall that the advertisement quoted above stressed that rent-to-own programs offer low payments with no security deposits or long-term obligations. For those who lack money for a deposit (or down payment) and who are unsure if they will have the money for future payments, the prospect may be attractive. Total costs may be excessive, but that would be secondary to someone who wasn't sure about making payments anyway. Because there is no long-term obligation, a consumer with financial problems could simply opt out of a rent-to-own program at any time.

Thus, the case illustrates Andreasen's observation that the low-income marketplace works differently than the market at large [1]. The types of policies which are effective for the latter may have little impact on the former because of differing needs and constraints. Indeed, one could argue, as industry officials do, that rent-to-own programs represent a positive market response to consumer needs which would otherwise not be met.[6]

Summary and Conclusions

The one thing which is clear in the rent-to-buy case is that consumers who choose that option pay a tremendously high price. The appropriateness of the words *choose* and *option* might be debated, because both imply an informed selection among alternatives. Indeed, those two words identify the crux of the policy question.

If the problems is that consumers are uninformed, added disclosure provisions might be effective in dealing with the problem. However, if the problem is a lack of options -- or perceived options-- disclosure would have only a limited impact. Rent-to-own programs appeal to a segment of the market which is poorly served by conventional outlets.

One policy question which emerges is the impact of Truth-in-Lending legislation on the low-income consumer's access to credit. If Truth in Lending has in some way limited access to credit, existing disclosure requirements may have fostered the growth of rent-to-own programs. Such complex lines of cuasation are not easily traced, but the question should be investigated.

Finally, it should be noted that while additional disclosure might have a limited impact, a *vigorous*

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[6] An industry lawyer was quoted as saying: "We haven't created a market, we've seen a market and provided what people want" [7].

education and publicity program could be effective. Disclosure provides only words on a page and words can be ignored or misunderstood. However, if consumer educators, in conjunction with community groups, offered ongoing, dramatic evidence of the costs involved, the message would have more impact.

It is ironic that nearly a quarter century after the passage of the original truth-in-lending legislation, consumers are still paying charges which are alarmingly high. That should be a reminder that there are no simple solutions. Such reminders challenge both consumer researchers and educators to expand their understanding of market operations and translate that understanding into programs and policies which enhance consumer well being.

REFERENCES

1. Andreasen, Alan. *The Disadvantaged Consumer*. New York: The Free Press, 1975.
2. Brandt, W. and Day, G. "Information Disclosure and Consumer Behavior: An Empirical Evaluation of Truth in Lending," *Journal of Law Reform*, Vol. 7, #2 (Winter, 1974), 297-328.
3. *Consumer Credit Protection Act*, (PL 90-321) 15 USC 1601 (1962).
4. *Consumer Leasing Act of 1976*, (PL 94-240) 15 USC 1601 (1976).
5. Gitman, Lawrence, *Personal Finance*, 3rd Ed. Dryden Press: Chicago, 1984.
6. Jacoby, J., Chestnut, R. and Silberman, W. "Consumer Use and Comprehension of Nutrition Information," *The Journal of Consumer Research*, *4* (1977), 119-28.
7. Johnson, Sheila, "Renting to Buy TV Sets, VCRs: Usury or a Deal?" *Wall Street Journal*, CCV, *126* (July 28, 1985) p. 35.
8. Kuhlmann, Eberhard, "On the Economic Analysis of the Information Seeking Behavior on Consumers," *Journal of Consumer Policy*, 6, *2* (1983) 231-38.
9. Lee, Ruth, "Rent-to-own cracks billion dollar mark," *Merchandising*, *8*, (September, 1983) 52-53.
10. Marini, Richard, "Store ups biz with rent, lease plans for credit-needy buyers," *Merchandising*, *8* (July, 1983) 48.
11. Rental Advertisement for nationwide rental agency; name withheld.
12. Rental Contract from rent-to-own firm. Name withheld.
13. Tyebjee, T.T., "Affirmative Disclosure of Nutrition Information and Consumers' Food Preferences: A Review," *The Journal of Consumer Affairs* (Winter, 1979) 206-23.
14. U.S. Senate, Committee on Banking, Housing and Urban Affairs, *Hearings on Consumer Protection Act*, *S.1152* (S. Hrg. 98-227). July 19, 1983.

DISCUSSION OF THREE RESEARCH PAPERS ON CONSUMER CREDIT

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ABSTRACT

These three papers focused on different credit forms, including open-end, closed-end and rent-to-own programs. The analysis utilized demographic and socio-economic variables in an effort to explain credit usage and practices. Some effort was made to include cognitive and affective variables, such as attitudes, knowledge and time perspectives. The importance of this information for consumer educators/counselors and for policy decisions was also discussed.

The authors of all three of these papers should be complimented for providing us with such thought-provoking analyses of factors related to different forms of credit usage, including open-end (e.g., credit cards), closed-end (e.g., installment contracts), and rent-to-own programs. I was particularly pleased to see the inclusion of cognitive and affective variables in all three of the papers along with the more traditional demographic and socio-economic ones. For example, Danes and Hira included measures of credit knowledge and attitude in their study of credit card practices. The Federal Reserve data utilized by Jensen and Reynolds included an attitudinal index regarding credit use. Swagler theorized that the lack of perceived access to credit sources and the short time horizon of low income consumers might negate the effectiveness of consumer education and disclosure legislation regarding the relative cost of rent-to-own programs. The remainder of my remarks are directed toward the three individual papers in an attempt to make constructive comments regarding the methodology and findings.

JENSEN AND REYNOLDS PAPER

The model for this paper was logically developed and relatively thorough given the constraints involved in using an existing data base that is almost ten years old. Since I am not as familiar with logit analysis as I would like to be, I relied on a statistical consultant to comment on the statistical analysis and interpretation. His major comment was that the summary measures and statistical references presented in the narrative discussion were not those widely used and recognized in his discipline and that he thought the statistical portion of the paper could be better referenced. Given that the authors are economists and my consultant is a social psychologist, the lack of familiarity with the summary statistics presented and references may be due to differences in the two disciplines.

The results of this study seemed pretty intuitive in that the 50-65 age group differed from the over 65 groups only in the use of closed-end credit. Jensen and Reynolds did not clarify whether the Federal Reserve open-end credit data included convenience credit card users who typically pay off their accounts each month along with those who allow their account to revolve each month. If the former were included, I believe this might help explain the lack of difference between the age groups on open-end credit use. It is likely that older consumers--both the 50-65 and over 65--might be likely to pay off their cards on a regular monthly basis.

Future research needs to investigate the amount of credit relative to income rather than the credit user/nonuser variable in order to get a more relevant measure of credit usage. It is also interesting to reflect on the likelihood that the retirees and preretirees in 1977 might have used less credit throughout their lives than cohorts currently in middle age or approaching retirement today. If possible, this study needs to be replicated in a few years to see if the same relationships still exist.

DANES AND HIRA PAPER

Danes and Hira provided a comprehensive model in their effort to include endogenous measures of both attitude and knowledge about credit. They also included some of the same demographic and socio-economic variables as in the Federal Reserve data analyzed by Jensen and Reynolds, e.g., age and income. In view of Jensen and Reynold's finding that age was an important determinant of credit usage, I was at first surprised to read that Danes and Hira had eliminated age in their reduced model due to its lack of performance in the original recursive model. This contradictory finding led me to take a closer look at the definition of credit and to note that this paper pertains only to open-end credit in the form of credit cards. Thus, the contradiction faded when I realized that age was only important in explaining closed-end credit usage in the paper by Jensen and Reynolds.

I encountered other definitional questions when reviewing the variables utilized in the paper by Danes and Hira. First, I wanted to know why the knowledge questions were randomly assigned to two indicators of credit knowledge. There was no explanation for this in the narrative. It seemed more logical to me to group the questions according to their content and to check the resulting internal consistency if two measures were needed. Or, another idea was that a single test of credit knowledge could have been created and checked for reliability and validity. Since the specific questions pertaining to knowledge were not delineated in the paper, I found myself trying to guess what the descriptors really meant. One I found bothersome was called "interest compounding." I wondered if this were really referring to the various forms of interest computation (previous, average daily and adjusted balances) or what. I wondered if the absolute amount the household felt comfortable in owing on credit cards at one time was really a true measure of attitude. This amount would seem more useful if it were a percentage of income rather than an absolute dollar value. Then I wondered why a number of attitudinal statements were not developed into a scale to measure this important dimension.

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In the discussion of income, I was surprised to find no descriptive information about the median or range of income for the sample. This was not included even though there was such information about age, education and household size. This made me wonder how the income and other data compared to Census data for Marshalltown or some other larger population base. I wondered how much missing data there had been with regard to income and how this was handled. In the interpretation of the findings, I was confused when in one place the authors claimed that a .14 difference in the knowledge indicators was "similar" but a page later they determined that a .012 difference in the credit practices indicators was dissimilar enough to discuss. I was also confused by the statement that claimed there were "decreased" degrees of freedom in the reduced model when compared to the recursive one. The information in Table 2 contradicts the narrative by showing that the degrees of freedom are 11 and 14 for the full recursive and reduced models, respectively.

Danes and Hira are to be congratulated for tackling such a complex model which attempts to test the relationships between credit attitudes, knowledge and practices. Since this was an exploratory effort, it might be useful to reanalyze the data to test the paths from credit practices to attitudes and knowledge. It would seem possible that credit behavior could be responsible for attitudes and knowledge as well as vice versa. The exploratory effort presented in this paper needs to be expanded to a confirmatory one where the model developed in the Marshalltown study is tested with another sample.

SWAGLER PAPER

The analysis of rent-to-buy programs by Swagler is both thorough and thought-provoking. Although I had seen the ads for these programs and realized that they were expensive, I had not bothered to calculate the relative cost. I was shocked at the potential long range expense to the low income consumers targeted by these programs.

The disconcerting aspect of Swagler's paper is that this costly alternative which technically falls through the cracks of current disclosure legislation requirements may indeed be the unfortunate by-product of such legislation. I find myself in a very uncomfortable position of having been a strong advocate of Truth-in-Lending legislation when I had not noticed the potential adverse results on low income consumers. I had somehow convinced myself that "informative" legislation did not have such negative impact on credit availability and cost for certain consumer groups than "protective" legislation, e.g., state usury laws and licensure requirements.

Swagler has done again what he does so well in placing that little burr of doubt in our minds about how solutions to problems may indeed beget new problems. He even goes farther by pointing out that disclosure of the relative cost of rent-to-own programs might not be relevant to low income consumers due to their perceived and/or real lack of access to conventional credit alternatives and their short time perspectives. Consumer educators need to spread the word regarding the relative expense of these programs through community groups and public agencies just to see what, if any, impact the information will have on low income consumers. However, we need to be cognizant of the diversity of consumers and the difficulty of finding solutions that will benefit all consumers in an equitable manner.

In conclusion, I believe we have had a stimulating set of papers in this set. The authors have added to our knowledge base regarding consumer credit and have successfully directed our attention toward important issues. As usual, their findings have generated new research questions for us to address in future studies.

USE OF HEDONIC PROCEDURES TO CONSTRUCT INTERREGIONAL PRICE INDEXES: THE CASE OF HOUSING

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ABSTRACT

Data from the Annual Housing Survey are used to develop cross-sectional hedonic rental price indexes for a standard rental unit. Need for and applications of this procedure are discussed.

INTRODUCTION

An accurate account of price movements is an important aspect of consumer economics research. Many government policies which affect family welfare in the U.S. are formulated on the basis of the price level of the goods and services which households purchase. Furthermore "pure" price measures of particular goods, or of goods in general, are important variables in areas of consumer research such as demand studies.

A frequent criticism of price indexes has been their failure to fully account for quality change. For an in depth discussion of this issue, see Cagan and Moore [1]. Triplett [9] reviewed research on the accuracy of price indexes. He concluded that indexes based on highly disaggregated price information, where quality changes could be represented by substitution among goods (i.e., new goods replacing old), may avoid bias without explicitly adjusting for quality change.

On the other hand, certain goods, especially large durables, are heterogeneous in nature. That is, the good represents a bundle of attributes, each of which contributes to the total utility obtained from consumption of the good. The particular bundle purchased by a household may vary both over time and across geographic regions in a given time period. Standard price measures are probably weakest in accounting for quality changes in such heterogeneous goods. The purpose of this paper is to discuss the development of a quality-adjusted, interregional price index for a particular heterogeneous good--rental housing.

INTERREGIONAL PRICE INDEXES

The motivation for this research was to obtain a housing price variable to be used in an interregional study of mobile home demand. Theoretically, the price of a good should not vary across geographic regions because of the possibility of arbitrage, that is, the movement of goods from cheaper markets to more expensive ones. For example, if an automobile were priced higher in one region than another, supplies in the cheaper region would be shipped to the higher-priced region. Supply of automobiles would be increased in the more expensive region, pushing price downward. Supplies in the cheaper region would be decreased, raising price, until prices were equal in the two markets. In practice, arbitrage may not be completely effective because of transportation cost and information inefficiencies. A third, and major, hindrance to arbitrage is lack of mobility of the good. Housing is a primary example [4]. With the possible exception of mobile/manufactured housing, arbitrage cannot work with housing. Therefore, housing markets are characterized by their localized nature. The price differences which are likely to exist across geographic regions makes a cross-sectional price index essential in an econometric model of inter-metropolitan housing demand.

Several other potential uses exist for a cross-sectional housing price index. First, these indexes may be useful in determining housing subsidies under Department of Housing and Urban Development Programs. Second, such indexes may enhance the general understanding of the localized nature of housing markets. Third, development of cross-sectional housing price indexes may contribute to the establishment of new, interregional cost-of-living indexes [4].

Some information on interregional variation in housing prices was available previously in the Bureau of Labor Statistics Urban Family Budget estimates; however, these have been discontinued. Therefore, a feasible, and perhaps superior, alternative is the construction of cross-sectional hedonic price indexes.

Empirical work on construction of quality-adjusted price indexes began as early as 1961 with the research of Zvi Griliches. Griliches [5] constructed quality-corrected automobile price indexes using the hedonic regression technique. According to Griliches, the first step in determining the effect of quality changes on measured prices is to determine what relationship exists between the price of a good and its quality. Griliches hypothesized that the price of a good in a given time period is a function of a set of "qualities" or characteristics of the good, such as size and performance. The hedonic technique is based upon the assumption that a good is actually a bundle of utility-yielding attributes. Overall quality of the good is a function of these measurable attributes or characteristics.

Typically, quality adjusted price indexes have been constructed to compare prices between two time periods. In such cases, price, or the log of price, of a good in any given time period is regressed on a set of characteristics variables. The estimated coefficients represent the "shadow prices" of the characteristic variables:

$$P_{it} = \Sigma\pi_{jt} + b_{jit} + \varepsilon_{it} \qquad (1)$$

where,

P_{it} = price of the ith good at time t
π_{jt} = the shadow price of the jth characteristic
b_{jit} = the level of the jth characteristic of the ith good at time t.
ε_{it} = the disturbance term

The "shadow prices" are then used to price a reference bundle of characteristics in each time period being studied. If a base time period is used for reference, an index similar to a Laspeyres price index can be constructed. The quality corrected index is:

$$\sum_j \hat{\pi} Z_{j0} / \sum_j \hat{\pi}_{j0} Z_{j0} \qquad (2)$$

where,

Z_{j0} = the aggregate base period level of the jth specification variable ($Z_{j0} = b_{ij0} Q_{i0}$, where Q_{i0} = aggregate level of sales of good i in the base period.) [2], [6]

A less frequent use of hedonic analysis is in construction of cross-regional price indexes which provide information on pure price variation among markets.

METHODOLOGY

In the present study, cross-regional price indexes were developed for rental housing in fifty-eight of the sixty Standard Metropolitan Statistical Areas (SMSAs) surveyed between 1978 and 1981 as a part of the Department of Housing and Urban Development's Annual Housing Survey (AHS). The AHS is potentially an excellent data source for this purpose as it contains over one thousand housing and occupant variables, including a large number of structural and neighborhood characteristics. The methodology used to develop the cross-regional hedonic price indexes was established by Follain and Malpezzi [3].

Two major empirical issues are raised in the estimation of hedonic house price equations. These issues are what explanatory variables should be included and what should be the functional form of the equation.

Miller [7] categorizes variables which determine residential property prices. These include structural attributes, location, financial factors, transaction costs, and inflation. Miller further states that structural attributes and locational factors are the "fundamental" determinants of price because households receive utility or disutility from these characteristics over the entire term of occupancy. Financial factors and transportation costs are market-related variables which are typically excluded from hedonic analyses [3]. Inflation must be accounted for in order to permit comparison of the real influences of the other variables [7].

Based upon past AHS hedonic research and upon experimentation with the data set for this study, thirty-nine explanatory variables were selected for the regression equation. The variables are categorized as structural, neighborhood, (location), or other variables in the discussion below.

Structural Variables

Both structural information and structural defect variables were included as explanatory variables. The information variables included two size proxies--number of rooms and number of bathrooms. Age of the housing structure was entered in quadratic form to permit the depreciation rate to change over time. Heating and cooling characteristics were broken into four dummy variables: 1) whether the unit had some type of central or built-in heating equipment, 2) whether additional heating equipment was used during the winter preceding the survey, 3) whether the housing unit was centrally air conditioned, and 4) whether storm windows were present.

Additional structural information variables included number of housing units in the structure, and five dummies indicating presence of an elevator in structures with more than three stories, firmly attached handrailings on stairways, lighted hallways in the building, complete kitchen facilities, working electrical outlets in every room of the unit, and commercial establishments in the building. Two dummies were used to indicate presence and type of parking facilities. These were availability of off-street parking and availability of a garage. A dummy variable was also included to indicate whether or not the unit was rented furnished.

The regression equation also contained several measures of structural defects. These were dummies indicating presence of rats or mice, damaged or defective stairs in the building, exposed wiring, lack of privacy, and debris on the premises.

The Annual Housing Survey contains a question in which the occupant is asked his/her opinion of overall housing quality as being excellent, good, fair, or poor. In the present analysis, this variable was broken into three dummy variables, one each for the excellent, fair, and poor responses.

Neighborhood Variables

The effect of neighborhood characteristics on rental price was measured by ten occupant-rating measures of neighborhood conditions and services. Neighborhood condition variables included presence of crime, airplane noise, street noise, abandoned buildings, rundown buildings, litter, and commercial or industrial activities. Two neighborhood service dummies were included which measured the occupant's opinion of adequacy of the schools and adequacy of public transportation.

The AHS data set contains a variable which measures the occupant's opinion of overall neighborhood quality. This variable is structured identical to the housing quality variable and was treated in the same manner as that variable in the present study.

Other Independent Variables

Two miscellaneous explanatory variables were included in the regression equations. Month of the interview was included to allow measurement of the inflation rate. A dummy variable indicating a central vs. non-central city location was included in SMSAs where that distinction was possible.

The Dependent Variable

The dependent variable for the hedonic regression was monthly contract rent plus utilities, if utilities were not included in contract rent. This variable provided a more uniform measure of rental value than contract rent alone which may or may not include utilities.

Functional Form of the Equation

Selection of functional form for the hedonic regression was based upon the methodology employed by Follain and Malpezzi [3]. After rejecting the log linear form and the semi-log form (which regressed price on the log of the characteristics variables) because of the problem of defining the natural log of zero, the authors applied a Box and Cox transformation procedure to compare explanatory power of the linear and semi-log specification which regressed the log of the value on linear explanatory variables. They selected the semi-log model because it offered slightly more explanatory power and allowed the values of individual characteristics to vary with the price of the home. Following Follain and Malpezzi's findings, a semi-log function was chosen for this study. The natural log of gross rent was regressed on the set of linear characteristics variables as discussed above.

RESULTS OF THE HEDONIC REGRESSION

In the present study, ordinary least square procedures were applied to estimate the coefficients for the thirty-nine structural and neighborhood characteristics in fifty-eight of the sixty SMSAs for which AHS data were collected between 1978 and 1981. Each regression produced a vector of hedonic prices (the regression coefficients):

$$l_i = (l_i^s, l_i^n, l_i^m) \quad i = 1,58 \qquad (3)$$

where,
s = structural characteristics
n = neighborhood characteristics
m = other characteristics.

Because prediction of the value of the dependent variable is the major research focus in this study, the primary concern is with the residual variance of the regression equations and the related statistic, the adjusted square of the multiple correlation coefficient ($\bar{R}^2$) [7]. The best prediction should result from the specification with the smallest residual variance or the highest $\bar{R}^2$.

As discussed earlier, this procedure was followed in selecting the specifications for this study. To a lesser extent, signs and significance of the regression coefficients were considered. If a variable did not change the $\bar{R}^2$ considerably, its inclusion was based upon its significance and sign and its apparent influence upon the other regression coefficients.

The residual variance and the $\bar{R}^2$ for each SMSA are summarized in Table 2. The $\bar{R}^2$ ranged from a low of .23 in Boston to a high of .60 in Memphis and Raleigh. The mean $\bar{R}^2$ was .46. The F-value computed for each regression shows that all $\bar{R}^2$ values are significantly greater than zero; that is, the hypothesis that the observed multiple correlation is the result of sampling error may be rejected (see Table 1).

The wide range among SMSAs in the variation in the explanatory power of the same set of independent variables is indicative of the localized nature of housing markets.

Although the $\bar{R}^2$s are of a respectable magnitude for cross-sectional data, the research of Follain and Malpezzi [3] suggests that, in addition to structural and neighborhood variables; certain tenant characteristics, length of tenure, in particular may be significant predictors of rental price. Such variables were excluded from the present analysis because they are not housing characteristics and, therefore, are not theoretically part of an hedonic analysis.

STATISTICAL SIGNIFICANCE OF THE INDIVIDUAL HEDONIC REGRESSION COEFFICIENTS

Examination of the signs, magnitudes, and significance of individual coefficient estimates provides additional insight into the performance of the hedonic regressions. Also, information is provided as to similarities and differences among the fifty-eight separate housing markets.

Over half of the coefficient estimates were statistically significant in twenty-one of the fifty-eight equations (90 percent confidence interval; $\alpha < .01$; two-tailed test). The mean number of significant coefficients was sixteen out of thirty-nine variables, and the median was seventeen. The range was twenty with a minimum of ten and a maximum of thirty.

A small group of "key" variables were consistent in exerting the strongest influence on rental price in the fifty-eight SMSAs. The coefficients for number of rooms and number of bathrooms were positive and highly significant ($\alpha <.01$) in all fifty-eight equations. Given the semi-log form of the equation, the coefficients ranged from .073 for Columbus to .138 in the Los Angeles-Long Beach SMSA. The mean of the room coefficients was .100. The coefficient estimates for number of bathrooms ranged from a low of .095 in Denver to a high of .323 in Providence. The mean coefficient was .173.

In addition to number of rooms and number of bathrooms, structural and neighborhood variables which

TABLE 1. Summary Regression Statistics and Price Indexes

	$\bar{R}^2$	F-statistic	Degrees of Freedom (N - k)	Predicted Rent	*Price Index**
Atlanta	.49	120.83	4733	293.37	87.0
Cincinnati	.52	38.60	1341	270.67	80.3
Colorado Springs	.56	49.41	1401	223.76	66.2
Columbus	.47	35.57	1499	250.56	75.3
Kansas City	.56	40.07	1168	274.87	81.5
New Orleans	.49	44.63	1767	240.43	71.3
Newport News	.52	38.20	1245	221.63	65.7
Patterson	.46	33.89	1451	356.74	105.8
Philadelphia	.48	84.50	3556	297.80	88.3
Rochester	.43	25.27	1226	276.85	82.1
San Antonio	.56	44.99	1272	230.44	68.3
San Bernardino	.44	25.91	1185	278.03	82.4
San Diego	.51	51.51	1890	262.52	77.8
San Francisco	.42	107.35	5761	296.03	87.8
Springfield, MA	.37	24.81	1524	325.58	96.5
Baltimore	.47	34.61	1440	300.77	89.2
Buffalo	.36	20.18	1317	261.00	77.4
Chicago	.40	81.32	4704	293.64	87.1
Cleveland	.43	26.77	1282	318.83	94.5
Denver	.52	45.68	1549	286.88	85.1
Hartford	.43	31.53	1476	329.92	97.8
Houston	.51	138.18	5159	301.31	89.3
Las Vegas	.59	67.11	1698	294.86	87.4
Miami	.49	43.21	1660	295.59	87.6
Milwaukee	.39	28.26	1626	346.53	102.7
Omaha	.49	31.32	1175	213.06	63.2
Portland	.41	29.87	1572	289.86	85.9
Raleigh	.60	62.85	1513	262.22	77.8
Seattle-Everett	.43	87.79	4499	338.53	100.4
Albany	.36	20.12	1304	270.29	80.1
Allentown	.37	16.94	991	279.80	83.0
Birmingham	.58	40.68	1061	243.83	72.3
Grand Rapids	.43	22.14	1021	276.86	82.1
Indianapolis	.49	35.57	1367	253.25	75.1
Los Angele-Long Beach	.43	114.78	5923	345.13	102.3
Louisville	.46	26.72	1140	223.28	66.2
Memphis	.60	65.69	1571	237.71	70.5
New York	.36	68.59	4725	413.32	122.6
Oklahoma City	.25	38.33	1325	224.58	66.6
Providence	.35	22.47	1493	375.25	111.3
Sacramento	.49	43.48	1666	264.21	78.3
St. Louis	.50	92.53	3503	274.03	81.3
Salt Lake City	.50	42.35	1523	272.94	80.9
Detroit	.38	17.74	1122	437.44	129.7
Anaheim	.52	45.64	1593	563.66	167.1
Boston	.23	16.12	1975	391.72	116.1
Dallas	.43	28.62	1395	259.82	77.0
Fort Worth	.53	38.47	1254	253.53	75.2
Madison	.43	31.13	1493	384.42	114.0
Minneapolis-St. Paul	.33	15.22	1101	337.26	100.0
Newark	.33	16.68	1201	427.17	126.7
Orlando	.54	37.38	1103	273.43	81.1
Phoenix	.51	34.84	1251	280.76	83.2
Pittsburgh	.40	15.20	788	294.44	87.3
Spokane	.47	27.82	1090	273.59	81.1
Tacoma	.39	23.77	1335	240.29	71.2
Washington, D.C.	.47	45.99	2016	326.82	96.9
Wichita	.48	30.22	1168	316.89	94.1

*Minneapolis-St. Paul = 100

consistently have highly significant coefficients of the expected sign are presence of conventional central heating, presence of central air conditioning, and presence and type of parking facilities. The heating equipment variable was significant and positive in fifty-three of the fifty-eight equations, usually at $\alpha < .01$. The central air conditioning dummy was significant and positive in fifty-two of the regressions.

Parking facilities were categorized into two dummy variables, presence of any type of garage and presence of off-street parking (e.g., carport or parking lot). Presence of a garage significantly increased rental value in forty-five of fifty-eight equations. Presence of off-street parking significantly increased rental price in twenty-six of the regressions.

Other coefficients which were significant in one-half or more of the SMSAs and usually of the expected sign were those for presence of storm windows (positive), presence of abandoned buildings in the neighborhood (negative), age of the structure (negative), and the neighborhood rating variables. Presence of all kitchen facilities for private use of the household exerted a positive and significant influence on rental price, while a floor plan which detracted from privacy (i.e., had to go through a bedroom to get to other rooms in the unit) exerted a negative and significant influence.

Many of the coefficient estimates had t-statistics which have absolute values greater than 1.65 ($\alpha < .10$; two-tailed test), but are not of the expected sign in all SMSAs. (see Table 2) Because several thousand coefficients are estimated, at least some of these anomolies may be attributed to randomness or may illustrate diversity among housing markets. In the cases of a few variables, however, a significant coefficient had the "wrong" sign in a relatively large number of the estimates. In these cases, another explanation or conjecture is called for.

Three variables which consistently exhibited the opposite of the expected signs were dummies indicating that the interviewee believed that crime is a problem in the neighborhood (expected sign: +) that the interviewee believed that the neighborhood schools were adequate (expected sign: +), and that the unit was rented furnished (expected sign: +). It is likely that these variables may be picking up the influence of unmeasured quality or occupant characteristics. For example, furnished units may generally be lower quality, and consequently, rent for less than unfurnished units. Both the crime and school variables were the interviewer's opinions about neighborhood conditions. It is possible that higher-income occupants of higher-priced housing may be more critical of neighborhood conditions. Opinions may not bear a relationship to actual conditions. A more objective measure of these variables would provide additional insight, but was unavailable in the AHS data set. The housing rating variables had a perverse effect on rental price. The "excellent" coefficient was negative and significant in twenty-seven of the regressions, while the "fair" and "poor" ratings were positive and significant in twenty-five and thirty-three of the fifty-eight equations, respectively. This anomoly may indicate that these variables are picking up locational effects. Housing nearer to the central business district may be lower quality, but rent for higher prices. More precise locational information may be desirable but is unavailable in the AHS data set.

In summary, the results of the hedonic regressions indicate that the most importatnt and consistent predictors of housing values are the structural attribute variable including number of rooms, number of baths, type of heating and cooling equipment, and parking facilities. Slightly less important in terms of estimated coefficient significance and magnitude of influence were the structural variables storm window, age of the structure, privacy, and kitchen facilities. The presence of abandoned buildings in the vicinity and the overall neighborhood quality rating performed best among the neighborhood variables. In general, the neighborhood opinion variables (i.e., crime, schools, transportation, noise, nonresidential activity) did not perform well in terms of significance and consistency of the signs of the coefficients. This lack of performance may be because opinion variables are not good measures of neighborhood conditions, although occupant's perceptions should affect both the price they are willing to pay for housing, and their estimation of property values. The neighborhood opinions were included in the equations, because theoretically, neighborhood factors should affect property values, and these are the only information of that type available in the AHS.

CONSTRUCTION OF THE HEDONIC PRICE INDEXES

Given the set of fifty-eight price vectors, a reference housing bundle was selected. The bundle consisted of a thirty-year-old, five room, one bath structure rated as good by the occupant. The unit contained central, conventional-type heating, central air conditioning, full private kitchen facilities, firmly attached handrailings, working electrical outlets in each room, and lighted common hallways. Off-street (non-garage) parking was available. The unit was located in a "good" residential neighborhood in a suburban location. Transportation and schools were rated as adequate.

The bundle was then priced in each SMSA by multiplying the estimated prices of the bundle characteristics by their specified quantities and summing the products. Because the dependent variables in the hedonic regressions were in logarithmic form, this method yielded the expected value of the logarithm of rent. Therefore, the antilog of that value gives the predicted rent. The predicted values are listed in Table 1. Minneapolis-St. Paul was arbitrarily selected as the base SMSA for calculation of the price index ratios. The ratio of the predicted rent in SMSA_i to the predicted value in Minneapolis-St. Paul, yields the price index for SMSA_i relative to Minneapolis-St. Paul. That is,

TABLE 2. Members and Signs of Significant Coefficients ($\alpha < .10$; two-tailed test)

Variable	Expected Sign	# of SMSAs in which coefficient is significant and positive	significant and negative
		(total # SMSAs = 58)	
Structural:			
ROOMS	+	58	
BATHS	+	58	
HEQUIP	+	53	
AIRSYS	+	52	
AGEST	–	9	37
AGESQ		22	10
STORMW	+	32	
HADDL	–	7	3
GRGE	+	47	
OSPRKG	+	26	4
KITCHEN	+	23	2
PRIVN	–	1	28
RAILOK	+	4	8
ELEV	+	18	20
SHOPS	–		14
NOWIRE	+	3	4
PLUGS	+	19	
LTS	+	13	4
IFF	+	7	16
RATS	–		
HEXCE	+	1	27
HFAIR	–	25	
HPOOR	–	33	
Neighborhood:			
SCH	+	1	16
CRIME	–	5	7
AIRN	–	5	19
STRN	–	13	
ABAN	–		15
NONRES	–	10	5
DUMP	–	6	4
JUNK	–	3	13
TRN	+	5	21
NEXCE	+	24	
NFAIR	–		31
NPOOR	–		25
Other:			
METRO	–	2	21
IMONTH	+	48	

$$P_{iMSP} = \mathrm{EXP}\left(\sum_{k=0}^{n} \ell_{ki}\bar{x}_k\right) / \mathrm{EXP}\left(\sum_{k=0}^{n} \ell_k \bar{x}_{kMSP}\right) \qquad (3)$$

where P_{iMSP} is the price of housing in SMSA i relative to Minneapolis-St. Paul; n = the number of characteristics in the selected bundle, and $\hat{\ell}_{ki}$ = the estimated value of the vector of the hedonic prices in the ith SMSA and $\bar{x}$ = the selected quantity of each of the characteristics (x_k) in the housing bundle. The price indexes for the "standard" rental units are presented in Table 1.

IMPLICATIONS OF USE OF THE HEDONIC PRICE INDEX AS A PRICE VARIABLE

The purpose of the hedonic analysis in the present study was to obtain a standardized price variable for a study on mobile home demand.

In use of the hedonic price index as a price variable in a demand analysis, the issue of identififaction must be addressed. The price indexes are predicted prices rather than observed market prices. Therefore, the question is raised as to whether they are endogenous to the model or exogenous variables. Rosen [8] provides insight into this question. He states that the implicit or shadow prices of the characteristics do not identify demand or supply, but reflect both consumer preferences and producer technologies. Therefore, it may be logical to expect that standard housing prices predicted from these implicit characteristic prices do not identify demand or supply in a structural equation. In other words, the hedonic price index should be considered to be endogenous to a demand model. This endogeneity must then be dealt with in estimation by a model containing an hedonic price variable.

SUMMARY AND CONCLUSIONS

This report has presented the development and analysis of cross-sectional indexes of rental housing prices using hedonic regression analysis and Annual Housing Survey data. The main finding is that substantial variation exists in the predicted prices across SMSAs. Therefore, it may be concluded that an hedonic price index will reflect interregional differences in the price of a standard housing unit. The hedonic technique has the unique feature of built in quality adjustment, given that the important attributes are known and can be measured. Further experimentation may be needed on the form of neighborhood-related variables in order that their exact influence may be assessed.

REFERENCES

1. Cagan, Phillip, and Moore, Geoffrey H. The Consumer Price Index: Issues and Alternatives. Washington, D.C.: American Enterprise Institute for Public Policy Research, 1980.

2. Deaton, Angus, and Muellbauer, John. Economics and Consumer Behavior. Cambridge: Cambridge University Press, 1980.

3. Follain, James R., and Malpezzi, Stephen. Dissecting Housing Value and Rent. Washington, D.C.: The Urban Institute, 1979.

4. Follain, James R., and Ozanne, Larry. Place to Place Incexes of the Price of Housing: Some New Estimates and A Comparative Analysis. Washington, D.C.: The Urban Institute, 1979.

5. Griliches, Zvi. Price Indexes and Quality Change. Cambridge: Harvard University Press, 1971.

6. Muellbauer, John. "Household Production Theory Quality, and the Hedonic Technique," American Economic Review, LXIV (December, 1974), 977-994.

7. Miller, Norman G. "Residential Property Hedonic Pricing Models: A Review," in Sirmans, C.F., editor. Research in Real Estate, Vol. 2: Urban Housing Markets and Property Valuation. Greenwich, CT: Jai Press, 1982.

8. Rosen, Sherwin. "Hedonic Prices and Implicit Markets: Product Differentiation in Pure Competition", Journal of Political Economy, Jan./Feb., 1974, 35-55.

9. Triplett, Jack E. "Determining the Effects of Quality Change on the CPI," Monthly Labor Review, May, 1971.

CONSUMER UTILITY: ROLE OF THE VOLUNTARY SECTOR

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ABSTRACT

This article explores the nature of the Voluntary Sector and of volunteers, especially in relation to consumers. The utility derived by consumers from this sector is explained. Issues are identified, especially the boundary issue between the Household Sector and the Voluntary Sector. A role for family and consumer economists in future study of the Voluntary Sector is suggested.

INTRODUCTION

In addition to the Market, Public, and Household Sectors, the Voluntary Sector is an avenue through which consumers have their needs and wants met. It is important that family and consumer economists have a better understanding of the Voluntary Sector because consumers derive a great deal of utility from this sector, consumer organizations are part of the Voluntary Sector, and recent and proposed budget reductions impact on the Voluntary Sector, with important ramifications for consumers. Yet, family and consumer economists have studied the Voluntary Sector and resultant consumer utility very little. Possibly, they take this sector for granted as do many others. The purpose of this paper is to examine the Voluntary Sector from a consumer perspective, especially the contribution of the Voluntary Sector to consumer utility. We will discuss the nature of the Voluntary Sector, types of utility consumers derive from this sector, the nature of volunteers, and issues in the interaction of consumers and the Voluntary Sector.

NATURE OF THE VOLUNTARY SECTOR

The Voluntary Sector is referred to by other names: the Independent Sector, the Nonprofit Sector, and the Third Sector. Reference is made to a "third sector" because the literature in the field of voluntarism traditionally has ignored the Household Sector as a separate sector or has assumed that it is part of the Voluntary Sector [e.g., 7, 8].

Although privately controlled, the Voluntary Sector, in contrast to the Market Sector, operates on a not-for-profit basis and provides goods and services to others at little or no fee. This is accomplished through a wide variety of organizations and activities. For example, the American Red Cross assists disaster victims by providing first-aid services, food, clothing, and shelter at no charge to the recipients. Or, a nonprofit credit counseling center provides debt counseling to families on a sliding-scale fee basis.

Nonprofit organizations are a highly visible and important part of the Voluntary Sector. There are four distinct types of nonprofit organizations:

(1) funding agencies or fundraising intermediaries which exist to allocate resources to those who deliver services, e.g., United Way;
(2) organizations whose primary purpose is to provide goods and services to members, e.g., professional associations and unions;
(3) organizations whose purpose is to serve others, to provide goods and services to those in need, and to contribute to general welfare, e.g., social welfare agencies, cultural institutions, and hospitals;
(4) religious congregations--these may actually be part of the other types rather than set out separately [12].

The third type of organization listed above is the one where overlap occurs between the Public and Voluntary Sectors in these areas: (1) social welfare, including social services, community development, and employment and training; (2) health care; (3) education and research; (4) income assistance, (5) international relief and assistance, (6) culture and the arts, and (7) conservation and the environment. Although nonprofit organizations serve these same needs that public agencies do, the nonprofit organizations are set apart because they are privately controlled.

The nonprofit organization has a paid administrator and a paid staff, but the organization may rely heavily on volunteers to provide services to its clients. Frequently, the nonprofit organization uses public monies, in the form of government grants, to provide goods and services to its clientele. The collaboration of nonprofit organizations and federal, state, and local governments tends to be quite extensive with 1980 federal support alone at approximately $40 billion [11]. This collaboration is decreasing, though, with nonprofits likely to lose $33 billion in funding under FY 1982-85 proposed budget reductions [12]. For some nonprofit organizations involved in running public programs, this loss could be as much as 1/4-1/3 of their total revenues.

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The Voluntary Sector, with expenditures of $116 billion in 1980 [12], provides social services and health care much like the Public Sector. In fact, demand for these services is expected to increase dramatically with the federal government decreasing its own programs in these areas. This coupled with severe funding cuts to nonprofits threatens to put these organizations at great financial risk and in an extremely weak position for continued existence.

But, today's Voluntary Sector also includes other types of voluntary associations, such as citizen participation, issue-oriented, and self-help groups. Consumer groups organized to protect consumer rights and the American Council on Consumer Interests are examples of these types of voluntary organizations. Self-help groups are the fastest growing segment of the Voluntary Sector [10]. Of special interest to family and consumer economists are self-help groups organized to help consumers to maximize resource use, such as bartering exchanges, and those which focus on particular consumer problems, such as health concerns, psychological problems, and alcohol and drug abuse. In these self-help groups, individuals voluntarily donate their time to help solve their own problem(s) as well as those of other group members.

Providing for community needs outside government has characterized American society from its beginning when early settlers helped each other to build houses and schools [4]. Voluntary activities have continued as an American phenomenon. In the early 1980's, the value of time given to volunteer work was estimated at approximately $65 billion per year [7]. This is the most recent estimate available due to the complexity of measuring time spent in volunteering and of determining its value. The Voluntary Sector consists of approximately six million organizations. Further, one out of every ten service workers and one out of every six professional workers were employed by nonprofit organizations in 1975 [3]. Given the magnitude of this sector, the potential impact of the Voluntary Sector on consumer utility is great.

CONSUMER UTILITY FROM THE VOLUNTARY SECTOR

Individuals derive utility from two sources via the Voluntary Sector: either as recipients (consumers) of the goods and services provided by the Voluntary Sector, or as providers of the goods and services. Utility for recipients usually is measured in monetary terms while utility for providers is assessed in terms of satisfactions received.

Recipients are those who obtain benefits in some way from the sector. Elderly, disabled, and economically disadvantaged persons, as well as youth and individuals with consumer problems, are typical consumers of goods and services from the Voluntary Sector. Recipients obtain a variety of goods and services, similar to the goods and services provided by the Public Sector, including assistance with food, clothing, and shelter. Consumers or recipients also receive benefits from organized efforts to clean up the environment, to protect consumer rights, to provide needed self-help services, etc. Recipients can invest some of their own time and/or money in the production of needed goods and services, or they can be "free riders" and obtain goods and services without contributing any time or money [8].

TABLE 1. Volunteer Activity of U.S. Adults, Aged 14 Years and Older, March 1981[a]

Activity	Percentage Who Volunteered in Past Three Months	Mean Number of Hours Spent Volunteering in Past Three Months[b]
Arts and Culture	2	31
Religious	11	28
Work-Related	5	28
Recreation	3	28
Justice	--[c]	27
Informal/Alone	14	27
Health	8	26
Citizenship	3	25
Social/Welfare	3	23
Education	10	22
Political	4	21
All Other Areas	1	19
Community Action	5	18
General Fund Raisers	3	12

[a] Source: Independent Sector. Americans Volunteer: 1981. Washington, D.C.: Independent Sector, 1981.

[b] Mean excludes respondents who spent no volunteer hours in the past three months but who volunteered in each area in the past year.

[c] Less than one percent.

The services performed by unpaid volunteers are impressive in terms of both variety and total volume. Table 1 indicates volunteer activity in March 1981 of U.S. persons, aged 14 years and older [6]. The sample in this study was designed to produce an approximation of the adult non-institutionalized U.S. population. Volunteer work was defined as "working in some way to help others for no monetary pay," and the definition excluded work for one's own family. Results indicated that the volunteers spent time in a variety of activities in the previous three months with the largest percentages of volunteers in informal, education, and religious activities. This array of volunteer activities indicates the myriad of services consumers enjoy, either directly or indirectly, from the Voluntary Sector. Further, mean number of hours in these activities, which ranged from 48 to 124 per volunteer on an annual basis, suggests the magnitude of these services to consumers in personal time expenditure. Without the efforts of volunteers, these services would be left undone or would have to be purchased through the private or public sectors. In either event, total utility would be diminished for consumers.

Providers of services, known as volunteers, give time, and often money, to produce goods and services for others. Those who provide goods and services to the Voluntary Sector do so in the role of youth group leader, hospital aide, charity fund collector, athletic team coach, volunteer firefighter, homemakers' club member, Cooperative Extension Service Council member, unpaid consumer lobbyist, and expert witness. Traditionally, volunteers were viewed as purely altruistic; they gave of their time unselfishly with no expected return. Present studies suggest that volunteers donate time and receive a variety of returns, from the satisfaction of helping someone else, to job skills acquired for self, to fellowship, to some type of needed service for a family member [13, 14]. Although these returns are not all economic, they do add greatly to consumer utility through psychic income.

NATURE OF VOLUNTEERS

The Voluntary Sector has a sizable number of unpaid workers providing needed services to consumers, and a greater proportion of the population is volunteering than ever before [9]. Using the fairly broad definition of "working in some way to help others for no monetary pay," the Gallup Organization found that 52 percent of American adults provided some voluntary service in 1981 [6]. Types of voluntary organizations have changed somewhat over time, so volunteers are now less likely to spend time in human service types of voluntary organizations and more likely to be involved in self-help groups and citizen participation activities. Givers of services in the Voluntary Sector come from every economic group, rather than just from the wealthy class as in the early days of volunteering. Even the customary recipients of services are now volunteers [9]. Although all educational, economic, and racial groups are represented in the volunteer ranks, the average volunteer continues to be a white, married woman with a relatively high education and income level [1, 6, 16].

Traditionally, married women were major providers of time needed, but the increase in women's labor force participation has changed that somewhat. Although women are the primary volunteers, and many continue to volunteer after entering the labor force, they seem to spend fewer hours in volunteer work.[3] To fill this void, other segments of the population have been recruited, especially the elderly and men.

ISSUES IN THE INTERACTION OF CONSUMERS AND THE VOLUNTARY SECTOR

There are several issues related to the interaction of consumers and the Voluntary Sector which would profit from the attention of family and consumer economists. These are: (1) the impact of consumers on the Voluntary Sector, (2) the impact of the Voluntary Sector on consumer utility, (3) the boundary issue between production and consumption, (4) the boundary issue of the Household Sector and the Voluntary Sector, including appropriate and precise definitions of activities of the two sectors, and (5) clarification of definitions and activities within what is currently loosely incorporated under the rubric, "Voluntary Sector."

Consumers shape the Voluntary Sector through the types of goods and services they demand (and through the time and money they in turn supply as producers). In recent times, demand has increased because consumer incomes have been reduced or eliminated, thus requiring them to seek services from the Voluntary Sector. Cuts in government programs also have motivated consumers to seek these services from the Voluntary Sector. The types of individuals who volunteer affect the quantity, quality, and variety of services that the Voluntary Sector can provide to recipients. For example, as the qualifications of the current pool of volunteers change, so does the quality of services that can be given to the recipients. The impact of consumers in these two ways has not been analyzed adequately. How women's increased labor force participation has affected the amount of time spent volunteering and the nature of their volunteer activity needs to be addressed, rather than merely whether women continue to participate. Possibly, professional women are more involved in leadership roles and volunteer work related to their employment, as professional men have tended to be. This would be a departure from women's large role in service-type volunteering in the past. How women's labor force participation affects services demanded from the Voluntary Sector is important too.

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[3] National volunteer time-use studies have concluded that women's volunteer work participation has been maintained or has increased. Since volunteer time in these studies was measured as participation (yes or no) rather than in hours of time spent, this conclusion is not valid [e.g., 1, 6, 16].

Some work has addressed the assessment of the value of volunteer work in monetary terms, but this is either dated [19, 20] or based on questionable assumptions [7]. In the latter instance, the value of volunteer time was estimated through analyzing volunteer time by educational level of the volunteers. Then, the volunteer hours for those in each educational category were multiplied by the 1980 Census Bureau survey average hourly wage for that educational level. This method does not provide a value for the work performed comparable to that for the same type of work performed in the Private Sector. Additionally, only an aggregate value was reported. A more thorough analysis would tally the value of services by voluntary activity to demonstrate added value to education, health, social services and other categories of volunteer activity. In recent times, family and consumer economists have studied time inputs and value of products produced by the Household Sector. We could lend our expertise in further understanding time inputs and product value of the Voluntary Sector, as well as the consumer economics perspective in regard to consumer utility derived from the Voluntary Sector.

Research is needed, too, to identify psychic income received by volunteers, especially that related to specific types of voluntary activity. Volunteer work presents researchers an opportunity to explore the boundary problem between production and consumption; here, satisfactions enjoyed by the producer evolve out of the production process itself. The production process generates satisfactions for the simultaneous or concomitant enjoyment of the producer. The self-help group is an example of this phenomenon.

Toffler [15] maintains that we are shifting from the passive consumer to the active "prosumer." He suggests that households in the future will produce more of their own goods and services, but in a very selective and voluntary fashion unlike the type of production needed for survival reasons that took place in early American households. He calls this phenomenon "prosuming," and cites self-help medical care and participation in self-help groups as prosuming. In these activities, consumers create services for themselves instead of purchasing these services in the market. In a self-help group, one individual gives support to another and in so doing helps him/herself. This type of activity has in it many of the elements of activities identified as home production. Yet, this production may be performed outside the household and creates utility for others. Thus, at the same time that the consumer may be creating household production utility, he/she also may be creating utility for another person through the Voluntary Sector. Thus, some types of volunteer activity present a boundary problem between the Voluntary Sector and the Household Sector. Family and consumer economists can contribute by assisting the Voluntary Sector to recognize the existence and worth of the Household Sector and by making clear the definition of the Household Sector as a distinct sector apart from the other three sectors.

Indeed, the Household Sector and the Voluntary Sector both contribute so much in quantitative and qualitative terms that they merit greater recognition than they have yet received in a society which has focused its attention largely on dollar measures of market goods and services. If adequate account is to be taken of the contribution of these two sectors to the total flow of goods and services, no matter how loosely measured or by what alternative methods, this boundary issue must be addressed and resolved. Failure to do so incurs the risk of double counting or failing to take stock of noteworthy contributions of each sector. In a time when the measurement and valuation of household production is receiving increasing attention, and similar attention to the Voluntary Sector also has been increasing, the definitional issue takes on heightened significance.

Finally, family and consumer economists and other analysts can make a valuable contribution to the conceptual base of the Voluntary Sector by refining more carefully the activities which are currently subsumed under that title. Clearly, unpaid volunteer work to benefit persons other than family members falls within that domain. However, the term Voluntary Sector is sometimes equated with "Nonprofit Sector"; yet in some nonprofit agencies the service providers may all be paid, albeit perhaps at modest wage rates, and the only element that is "volunteered" is the capital on which no return is sought. If effective analysis of the Sector and quantification of its output is to be accomplished, such definitional problems must be resolved.

SUMMARY, PROJECTIONS, AND IMPLICATIONS

The Voluntary Sector clearly has a significant impact upon the flow of services and goods enjoyed by consumers, and thus upon the quality of their life experience. Futurists suggest that our society is developing in ways that will make the role of the Voluntary Sector even more important than today. Etzioni [5] states that the "most promising solutions to our domestic problems are among the third sector approaches now evolving." We are becoming much more involved in production of needed services through the Voluntary Sector, especially those services previously provided by the Public Sector. And, we are becoming much more involved in seeking new solutions to our problems in the face of budget cuts and increasing demands for services [2]. Evolving economic conditions and societal orientations would suggest that this is not likely to be a short-lived phenomenon. Thus, the Voluntary Sector, already very important, will merit increasing recognition and attention from consumers and family and consumer economists.

REFERENCES

1. ACTION. Americans Volunteer--1974. Washington, D.C.: U.S. Government Printing Office, 1975.

2. Allen, Kerry K. "Volunteering in America: 1982-83." Voluntary Action Leadership (Winter 1983): 22-25.

3. Commission on Private Philanthropy and Public Needs. Giving in America: Toward a Stronger Voluntary Sector. 1975.

4. Ellis, Susan J. and Noyes, K. H. By the People: A History of Americans as Volunteers. Philadelphia: Energize, 1978.

5. Etzioni, Amitai. "The Third Sector and Domestic Missions." Public Administration Review 33 (No. 4 1973): 314-322.

6. Independent Sector. Americans Volunteer: 1981. Washington, D.C.: Independent Sector, 1981.

7. McCurley, Stephen H. "How Much are Volunteers Worth?" Voluntary Action Leadership (Spring 1984): 12-13.

8. Mueller, Marnie W. "Economic Determinants of Volunteer Work by Women." Signs: Journal of Women in Culture and Society 1 (No. 2, 1975): 325-338.

9. O'Connell, Brian. "From Service to Advocacy to Empowerment." Social Casework 59 (No. 4, 1978): 195-202.

10. O'Connell, Brian. Origins, Dimensions and Impact of America's Voluntary Spirit. Washington, D.C.: Independent Sector, 1984.

11. Salamon, Lester M. "Nonprofit Organizations: The Lost Opportunity." In J. L. Palmer and Isabel V. Sawhill (eds.), The Reagan Record: An Assessment of America's Changing Domestic Priorities. Cambridge, MA: Ballinger Publishing Co., 1984.

12. Salamon, Lester M. and Alan J. Abramson. The Federal Budget and the Nonprofit Sector. Washington, D.C.: The Urban Institute Press, 1982.

13. Schram, Vicki R. "Motivating Volunteers to Participate." In Larry F. Moore (ed.), Motivating Volunteers: How the Rewards of Unpaid Work can Meet People's Needs. Vancouver, B.C.: Vancouver Volunteer Center, 1985.

14. Schram, Vicki R. and M. Dunsing. "Influences on Married Women's Volunteer Work Participation." Journal of Consumer Research 7 (March 1981): 372-379.

15. Toffler, Alvin. The Third Wave. New York: Bantam Books, 1980.

16. United States Department of Labor, Manpower Administration. Americans Volunteer. Manpower/Automation Research Monograph No. 10, Washington, D.C.: U.S. Government Printing Office, 1969.

17. Warren, Robert. "Coproduction and Volunteerism." Paper presented at the Annual Meeting of the Association of Voluntary Action Scholars, New Orleans, 1985.

18. Weisbrod, Burton A. "Not-for-Profit Organizations as Providers of Collective Goods." In Burton A. Weisbrod (ed.), The Voluntary Nonprofit Sector: An Economic Analysis. Lexington, MA: Lexington Books, 1977.

19. Weisbrod, Burton A. and Stephen H. Long. "The Size of the Voluntary Nonprofit Sector: Concepts and Measures." In Burton A. Weisbrod (ed.), The Voluntary Nonprofit Sector: An Economic Analysis. Lexington, MA: Lexington Books, 1977.

20. Wolozin, H. "The Economic Role and Value of Volunteer Work in the United States: An Exploratory Study." Journal of Voluntary Action Research 4 (No. 1-2 1975): 23-42.

DO ECONOMIC CONDITIONS INFLUENCE PRODUCT PRICE-QUALITY CORRELATIONS?

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ABSTRACT

The study tested the relationship between economic indicators and the fluctuations in product price-quality correlations in the Japanese market, 1972-1981. Separate multiple regression equations related the Consumer Price Index, Wholesale Price Index, Import Price Index and the Gross National Product to price-quality correlation coefficients while controlling for differences in types of products tested. Each economic indicator was inversely related to price-quality, and the three price indexes were significant at the .05 level. However, the results may be unique to Japan and to the time period studied.

A number of studies have computed price-quality correlations based on the data published in consumer product testing magazines (1,6,7,9,11,13). All have found wide variations in price-quality correlation coefficients across a wide range of products tested, in different time periods and in several countries. There is overwhelming evidence that price-quality correlations for products fluctuate widely and that the level of price-quality correlations is, on average, so modest that price cannot be used as a guide to quality (1,6,7,9,11,13).

Among the reasons generally suggested for the low average correlation and the wide variations over time are, first, that consumer information is far from perfect (5). Products are often complex and quality is therefore difficult to assess. Secondly, competition is less than ideal. There are too few sellers and product differentiation, whether real or perceived, has diverted attention from price competition (5).

The purpose of this study is to consider an additional factor, changes in economic conditions, as an influence on price-quality correlations. During periods of rapid economic change, products and their prices change more quickly. Manufacturers are adjusting prices, packaged quantity (packaging to price), and/or product quality because of their changing costs. Packaging to price and some changes which reduce quality are not highly visible to the consumer and, additionally, manufacturers and sellers are not likely to call them to the consumer's attention. Changes in price, quantity and quality cause consumer information to deteriorate. Thus, the residual knowledge--awareness of usual prices for a product and past experience with the product--becomes outdated (12). Because these changes occur more quickly in periods of rapidly changing economic conditions, it is hypothesized that price-quality correlations will generally be lower during periods of rapid economic change and be higher during more stable economic periods. This study considers methodology to analyze the relationship of economic conditions to price-quality correlations and reports results for the country of Japan.

RELATED LITERATURE

In a study of 685 product categories over the 15 year period from 1961-1975 using data from Consumer Reports magazine, Riesz plotted mean price-quality rank correlation coefficients for each year of the study. Annual mean correlations ranged from .192 to .345. Based on his plotted data, Riesz concluded that there was no "systematic evidence of any overall deterioration in the relationship of price to quality over a 15 year period," even though the first five years studied were characterized by price stability and the 1973-1975 time period was inflationary (10, pg. 23). One source of variation in the price-quality correlations which concerned Reisz were the differences in the product categories tested from year to year, upon which the annual mean correlations were based.

ECONOMIC CONDITIONS IN JAPAN

In the ten year period studied here, 1972-1981, there were a number of changes in economic conditions in the Japanese market. Two Arab oil embargoes affected the Japanese economy heavily. The first Arab oil embargo occurred in autumn, 1973, and is referred to in Japan of the first oil crisis; the second embargo happened at the end of 1978 and is known as the second oil crisis.

The first oil crisis lead to a tremendous increase in the Import Price Index (IPI) in Japan. The IPI rose 66% in 1974, from a level of 115.8 in 1973 to 192.6 in 1974. The increase in the IPI was accompanied by rises in the Wholesale Price Index (WPI) and Consumer Price Index (CPI) of 31% and 24% respectively in 1974. Owing to a scarcity of natural resources, Japan must import most of the raw materials and energy fuels which are used. Therefore, the Import Price Index can be considered a leading indicator, followed by the Wholesale and Consumer Price Indexes.

The major impact of the first oil embargo occurred in 1974. In the following year, the annual rate of increase in all indexes modified, although the time lag of the price pass through to the Consumer Price Index is reflected by its higher percentage change in 1975, as compared to the other two price indexes. The IPI rose 8%, the WPI 3%, and the CPI rose 12% in 1975. This moderation was at least partially due to the tight money policy of the Japanese government. Also, consumption and investment were reduced because people were pessimistic about the future, owing to the oil crisis and the recently experienced high rates of inflation.

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Modest increases in the IPI and WPI, along with the relatively greater creeping up of the CPI, characterized economic conditions in Japan until the end of 1978, when the second oil crisis occurred. Because the crisis occurred at the end of the year, the main price index effects are seen in 1980. Between 1979 and 1980, the IPI, WPI, and CPI increased more rapidly again. However, the rates of increase were not as high as in 1974, being 26% for the IPI, 18% for the WPI, and 16% for the CPI in 1980. There are several reasons for the somewhat smaller increases in the price indexes. First, the increase in the price of imports, as measured by the Import Price Index was less than in 1974 and was reflected in lesser increases in the WPI and CPI. Second, while extra price "padding" of the CPI—beyond the pass-through of higher import and wholesale prices—had occurred in and after 1974, it did not occur after the 1978 embargo. Third, people had learned from their experience with the first oil crisis and were not as alarmed by the late 1978 oil crisis.

DATA SOURCES

Price-Quality Correlations

The data source for price-quality correlations was Monthly Consumers, the product testing magazine published by the Japanese Consumers' Association (JCA). The JCA is a non-profit organization founded in 1961 to inform and educate consumers (2). It is an associate member of the International Organization of Consumers Unions. Forty percent of the income of the JCA comes from publications, 17 percent from contributions, and 43 percent is subsidized by the Japanese government.[1] Monthly Consumers has a circulation of 600,000[1] which is 1.7 percent of all Japanese households.

The JCA selection of products to be tested gives some consideration to consumer responses to questionnaires and consumer opinions. This consumer input is reviewed by JCA Product Testing Committees, which make the final selection of the more than twenty products to be tested each year. For the most part, nationally distributed durable goods are tested. Almost every individual product category tested in the ten year period studied here included one model from each manufacturer whose products are widely distributed.

Economic Indicator Data

The data for price indexes was compiled by the Statistics Bureau of the Office of the Prime Minister of Japan and Published in the Japan Statistics Yearbook each year (3). The data on the Gross National Product was from two sources, the Office of the Prime Minister of Japan and a Tokyo periodical, The Oriental Economist (8).

DEVELOPMENT OF PRICE-QUALITY CORRELATIONS

The data for both manufacturers' list prices and qualitative ratings were reported by Monthly Consumers in monthly issues of the magazine over the ten year period, 1972-1981. Manufacturers' list prices are usually published since national average purchase prices are not available. However, in those rare cases when manufacturer's list prices could not be obtained, purchase prices are used. The prices published in Monthly Consumers were ranked ordinally and coded numerically from low to high.

Monthly Consumers' total quality evaluation grades for products are reported as A, B, C, and X. These were translated into numerical ranks. Usually some of the total quality evaluation grades were tied. When a tie occurred, total quality evaluation grades were re-computed to determine each model's total quality score using the following equation:

$$\text{Total Quality Score} = \frac{\text{Sum of (Weights x Characteristics Scores)}}{\text{Sum of the Weights}} \qquad (1)$$

Each characteristic's weight was obtained from Monthly Consumers individual product test reports. Points for characteristic scores were obtained by translating the alphabetical designation of quality levels into numerical points when the models were tied on total quality grade. The tie-breaking procedure resulted in fewer tied rankings. The total quality scores, with recomputation when necessary to break ties, were ranked ordinally and coded numerically from low to high.

Spearman's rho correlation coefficients were used to determine the relationship between price and quality. However, coefficients could not be computed for three product sets because all the prices in two sets were identical and all the quality ratings in one product set were identical. Therefore, the total number of product sets available for analysis was 80, and 80 price-quality correlation coefficients were used in this study. The coefficients varied within a wide range, from +.87 to -.80. A total of 45 of the coefficients were negative (56 percent). The mean and median coefficients were -.055 and -.151, respectively.

PRELIMINARY ANALYSIS

Because of Riesz's conclusions in previously conducted research, this study proceeded cautiously. Were Japanese economic conditions in 1972-1981 sufficiently different from those in the United States in 1961-1975, the period Riesz studied, to warrant further study of the relationship of economic conditions to price-quality correlations? Preliminary analyses were conducted to answer that question before making a decision on the investment of substantially more time to refine economic measures for a more precise analysis. Plotted annual mean correlations and average annual economic indicators did appear to show similarities (Figures 1 and 2).

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[1] Personal conversation with members of the staff of Monthly Consumers, January 1982.

Variable Development

To control for variation in the annual mean price-quality correlations due to differences in the categories of products tested, the correlations for individual product test report articles were categorized by types of products--small appliances, large appliances, entertainment equipment, photography equipment, and bicycles. The mean correlations for product categories were -.217 for small appliances, -.066 for large appliances, .029 for entertainment equipment, .039 for photography equipment, and .433 for bicycles.

The year of publication of the product test report was introduced as the variable to measure changes over time. It was assumed that year served as a proxy for economic conditions during that year. The year of 1981 was omitted because economic data were not yet fully available for that year at the time of the analysis.

Findings

The test of the first equation, which related product categories and published year to price-quality correlations, yielded an R-square of .284 (See Table 1). All four dummy variables for product categories, compared to the omitted category of small appliances, were significant at the .05 level, indicating that product categories did influence annual mean price-quality correlation coefficients. The sum of the changes in r-squares for the product categories was .162. Published years were entered as dummy variables, being compared with the omitted year of 1972. Five of the eight published years tested were significant at the .05 level; these were the years of 1975 through 1979. This was the time span from the end of the first oil embargo through the time of the second oil embargo.

ECONOMIC INDICATOR EQUATIONS

Based on the results for the first equation, the decision was made to proceed with further analysis, replacing published years with economic indicators. The annual average level of the Import Price Index, Wholesale Price Index and the Consumer Price Index; the annual average level of the Gross National Product in millions of yen, and measures of Consumer and Manufacturer Sentiment were used to replace published year. Due to the relatively high correlations between economic indicators (the IPI, WPI, CPI, and GNP), in the .563 to .911 range, four multiple regression equations were used, relating the product categories and measures of sentiment, along with one economic indicator at a time, to price-quality correlation coefficients.

Findings: Economic Indicator Equations

Each of the four equations yielded R-squares which were substantially the same as that for the equation which used published years as a proxy for economic conditions. (See Table 2). Thus, the change to economic indicators appears to offer a very complete replacement for the proxy variables, published years, used in the first equation. Two of the four product categories were significant at the .05 level; these were entertainment equipment and bicycles, when compared with the omitted product category, small appliances. A third category, photography equipment, approached significance in the IPI, WPI, and CPI equations and reached the .05 level in the GNP equation. Consumer Sentiment was significant in the GNP equation; neither measure of sentiment was significant in any other equation. Each of the price indexes and the GNP were found to be significant at the .05 level; their change in r-squares ranged from .073 for the IPI and .071 for the WPI down to .049 for the CPI and .039 for the GNP.

The results were encouraging; economic indicators, as well as the categories of products tested did explain a moderate amount of variation in the level of price-quality correlation coefficients. Decisions were made to carry the analysis further, after 1) developing more precise measures of economic indicators, and 2) dropping the indexes of Consumer and Manufacturer Sentiment to provide a more direct and pure analysis of economic conditions only.

FINAL ANALYSIS

Variables

The product categories were continued as used previously. The three price indexes were refined in several ways. First, annual average indexes were replaced with monthly levels of the index. Second, because price data must be collected prior to publication and distribution of the product test magazine, the relevant economic indicator is from the time when price data is collected, not when it is published. This time lapse was approximately six weeks, a figure which was rounded up to two months to identify the appropriate monthly price index to be related to a price-quality correlation coefficient. Therefore, the time period of the price index data leads the publication date of the price and quality data by two months. The alternate way of stating this is that the publication date of the price and quality data lags the price index by two months.

Third, the annual average Gross National Product data was replaced with quarterly Gross National Product data, since this was the most specific time period for which data were available. A procedure similar to that for the price indexes was used to allow the time period of the GNP to lead the time period of the price-quality correlation coefficients by two months.

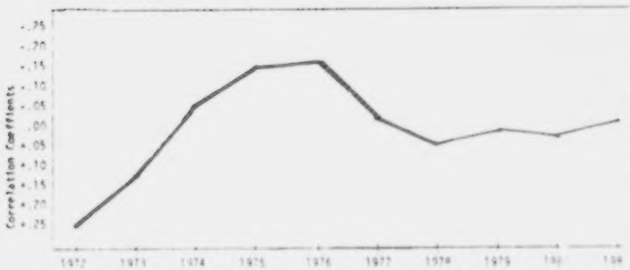

Figure 1. Mean Price/Quality Correlation of All Product, by Year, Japan 1972-1981.

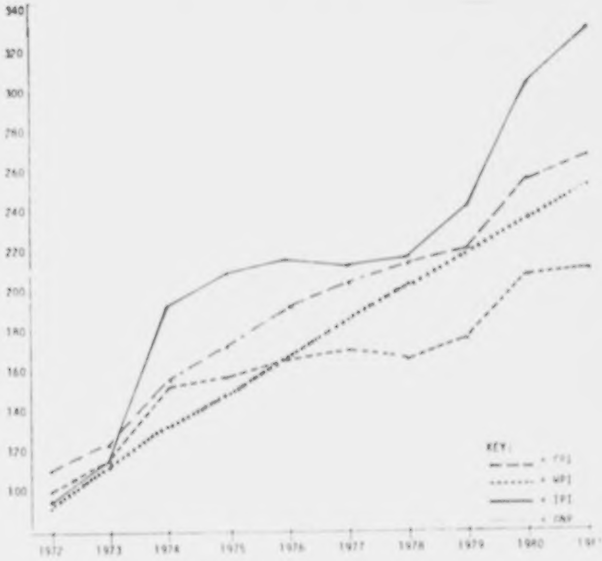

Figure 2. Annual Levels of Economic Indicators in Japan, 1972-1981.

TABLE 1. Variance in Price-Quality Correlations Explained by Product Category and Published Year, 1972-1981[a]

Independent Variable	Δr^2	Beta	F stat.
Non-motorized Vehicles[b]	.139	.443	12.549*
Entertainment	.016	.383	6.838*
Photography Equipment	.007	.189	2.028*
Large Appliances	.000	.276	3.520*
1973[c]	.004	-.136	.820
1974	.022	-.263	1.708
1975	.031	-.407	4.046*
1976	.026	-.428	5.128*
1977	.001	-.376	3.345*
1978	.000	-.286	2.258*
1979	.003	-.300	3.209*
1980	.034	-.135	.478
R^2	.284		
Mean of Dependent Variable -.025			
Standard Deviation of Dependent Variable .437			

[a] Since the CPI for 1981 was not available, the coefficients of 1981 were deleted, leaving an N of 68 cases.

[b] Omitted category of products is small appliances.

[c] Omitted category of published year is 1972.

*Probability - .05.

TABLE. 2 Variance in Price-Quality Correlation Coefficients Explained by Product Category and Economic Indicators, 1972-1978[a].

Independent Variable	Equation with IPI Δr^2	Beta	F-stat.	Equation with WPI Δr^2	Beta	F-stat.	Equation with CPI Δr^2	Beta	F-stat.	Equation with GNP Δr^2	Beta	F-stat.
Bicycles	.173	.450	11.153*	.161	.442	10.664*	.155	.443	10.714*	.150	.441	10.591*
Entertainment	.019	.321	4.472*	.022	.332	4.764*	.022	.334	4.844*	.023	.339	4.962*
Photography Equipment	.003	.155	1.174	.002	.160	1.240	.003	.160	1.252	.003	.163	1.289*
Large Appliances	.022	.093	.361	.020	.088	.318	.014	.089	.325	.013	.089	.328
Consumer Sentiment	.001	-.041	.093	.004	.069	.289	.031	.210	1.990	.035	.237	2.264*
Manufacturer Sentiment	.000	-.008	.002	.005	.089	.381	.013	.124	.813	.021	.168	1.601
Import Price Index (IPI)	.073	-.346	4.432*	--	--	--	--	--	--	--	--	--
Wholesale Price Index (WPI)	--	--	--	.071	-.284	4.006*	--	--	--	--	--	--
Consumer Price Index (CPI)	--	--	--	--	--	--	.049	-.320	4.073*	--	--	--
Gross National Product (GNP)	--	--	--	--	--	--	--	--	--	.039	-.318	3.912*
R^2	.291			.285			.286			.284		

[a] Since most independent variables' data from 1979 through 1981 were not yet available, the coefficients after 1978 were not included in the analysis. The remaining N. of cases was 54.

*P. = .05.

TABLE 3. Variance in Price/Quality Correlations by Product Category and Economic Indicators, Japan 1972-1981

Independent Variable	Equation with CPI Δr^2	Beta	F Stat.	Equation with WPI Δr^2	Beta	F stat.	Equation with IPI Δr^2	Beta	F stat.	Equation with GNP Δr^2	Beta	F
Product Categories (small appliances omitted)												
Large Appliances	.000	.211	2.634*	.000	.202	2.360*	.000	.200	2.325	.000	.226	2.970*
Entertainment Equipment	.021	.301	5.609***	.016	.288	5.028***	.015	.285	4.924***	.018	.297	5.304**
Photography Equipment	.014	.198	2.809*	.015	.204	2.970*	.015	.202	2.900*	.017	.210	3.126*
Bicycles	.098	.330	8.890***	.112	.351	10.001***	.111	.350	9.996***	.101	.335	8.961**
Consumer Price Index (CPI)	.048	-.189	3.162*									
Wholesale Price Index (WPI)				.030	-.164	2.349*						
Import Price Index (IPI)							.034	-.171	2.552*			
Gross National Product (GNP)										.026	-.126	1.378
R^2	.182			.173			.176			.163		

* = p. ≤ .05, ** = p. ≤ .01, and *** = p. ≤ .001

Fourth, an economic indicator may influence price and quality levels for a product only after some time lapse. Therefore, lead time beyond the above-mentioned two months were introduced into the price indexes. Since it was difficult to identify how long it should take for a general rise in consumer, wholesale or import prices to influence the price and quality of a product, three time leads were used for each price index. These were a quarterly, half-year and full year lead. Thus, the quarterly lead price indexes led the magazine publication date by two months plus three more months, for a total lead time of five months. Half-year leads were eight months and full year leads were fourteen months prior to the publication date of the magazine.

Fifth, in the elapsed time since completion of the preliminary analyses, economic indicators had become available for additional years: all ten years of data could now be analyzed.

Findings: Final Equations

The greater precision of the economic indicators and the addition of several years of data to the analysis did not result in the greater explanation of variance in price quality correlation coefficients. In fact, the results were the opposite. Ten regression equations were computed, relating quarterly, half, and full-year leads of each price index and the current level of the GNP to the price quality correlations. The price index equations reported here are the quarter-led CPI and the full-year led WPI and IPI. These price indexes were selected for reporting because they had the largest changes in the r-square for the economic indicator.

In the four final equations reported here the R squares dropped to the range of .182 for the CPI equation to .163 for the GNP equation. The three price indexes reached the .05 level of significance; the GNP was not significant in its equation. Each of the economic indicators was inversely related to the price-quality correlation coefficients--the hypothesized relationship. Most of the product categories tested in this final set of equations are significantly related to the correlations coefficients. The two product categories found significant at the .01 or .001 level in each of the four equations were entertainment equipment and bicycles. These are the same categories found significant in the preliminary set of economic indicator equations.

DISCUSSION AND CONCLUSIONS

Why was explanatory power weaker in the final set of economic indicator equations? First, the longer time span, ten years, tested the hypothesis in a time of more stable economic conditions as well as in the years of reaction to the first oil crisis and the continuing gradual rise of the CPI up to the time of the second oil embargo. It appears that the hypothesis needs to be tested over a relatively long period of time in order to be able to generalize to a range of normally experienced economic conditions.

In conclusion, despite the apparent relationship between the correlation coefficients in Figure 1 and the economic indicators in Figure 2, as well as the results in Tables 1 and 2, the best test of the relationship is found in Table 3. The strength of the relationship weakened as the quality of the measurement of the economic indicators improved. The equation R-squares for the price indexes fell to .173 to .182, but did remain significant at the .05 level. The equation which included the GNP was not significant.

The conclusion Riesz reached with United States data from 1961-1975 differs from the conclusion reached here with Japanese data from 1972-1981. There are a number of reasons for the inconsistency. First, the difference in quality data from U.S. and Japanese product testing magazines makes it necessary for those using U.S. data to accept more ties in the data used to compute price-quality scores. Applying Riesz's correlation methodology to the Japanese data, (done in this study but not reported here) results in no economic indicator being significant at the .05 level. Second, economic indicators with quarterly, semi-annual and annual leads were analyzed and only the equations with the highest R squares are reported in Table 3. Quarterly or semi-annual leading of the WPI and IPI resulted in non significant results. The CPI was significant at the .05 level in the quarterly and annual lead equations, but not the semi-annual equation. It appears that care must be taken in identifying the time lapse necessary before a price rise influences price-quality correlations.

Third, Riesz used data for a longer period of time, 15 years, including both inflationary and relatively stable economic periods. Riesz's findings are likely to be more generalizable to the normal range of economic conditions. This study uses a ten year time span in Japan which contain two Arab oil embargoes; it is a unique and extreme time period in a nation highly dependent on imported oil. Thus, it appears that quite unique and extreme economic conditions may be a necessary pre-condition to finding a relationship between price-quality correlations and the level of economic indicators in a country. Even when that unique economic condition does exist, a selective methodology (tie breaking of correlations and careful choice of time leads for the economic indicators) was needed to achieve findings statistically significant at the .05 level. The results here should not be applied to other time periods and other nations.

CITED LITERATURE

1. Friedman, M. P. "Quality and Price Considerations in Rational Consumer Decision Making." Journal of Consumer Affairs, 1967, 1, 13-23.

2. Japanese Consumers' Association. Monthly Consumers Yearbook, vol. 1. Tokyo: Japan Consumers' Association, 1979.

3. Japan Statistics Bureau, Prime Minister's Office (editors). *Japan Statistical Yearbook* (10 volumes). Tokyo: Japan Statistical Association, 1973-1982.

4. Katona, G., and Mueller, E. "Consumer Response to Income Increases." Washington: Brookings Institution, 1968.

5. Maynes, E. S. "Decision-Making for Consumers." New York: Macmillan, 1976.

6. Morris, R. T. "Consumers Union--Methods, Implications, Weaknesses, and Strengths." New London, Conn.: Litfield Publications, 1971.

7. Morris, R. T., and Bronson, C. S. "The Chaos of Competition Indicated by Consumer Reports." Journal of Marketing, 1969, *33*, 26-34.

8. The Oriental Economist. Tokyo: The Oriental Economist. 1973-1982.

9. Oxenfeldt, A. R. Consumer Knowledge: Its Measurement and Extent. Review of Economics and Statistics, 1950, *32*, 300-316.

10. Riesz, P. C. "Price Versus Quality in the Marketplace," 1961-1975. Journal of Retailing, 1978, *54*, 15-28.

11. Sproles, G. B. "New Evidence on Price and Quality." Journal of Consumer Affairs, 1977, *11*, 63-77.

12. Swagler, R. M. *Consumers and the Market* (second edition). Lexington: D. C. Heath and Company, 1979.

13. Yamada, Y., and Ackerman, N. M. "Price-Quality Correlations in the Japanese Market." Journal of Consumer Affairs, 1984, *18*, 251-265.

TESTING OF THE EFFECTIVENESS OF A CONSUMER EDUCATION PROGRAM FOR PRESCHOOLERS'[1]

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ABSTRACT

The effectiveness of the advertising unit and materials developed for use in it were tested on a sample of their intended audience - preschoolers. A storybook, tape/slide presentation and an advertising unit were used by preschool teachers with their classes. Results of testing indicated that the materials did increase the children's knowledge and understanding of advertising.

INTRODUCTION

The process of consumer socialization involves interaction between the child and his/her environment. Within the child's environment, the family, peers, school and television advertising have been identified as important agents which play a central role in socializing children into the consumer role. While focusing on preschool children, it becomes evident that certain socializing agents are more influential than others at this stage of development. Studies undertaken to assess the relative influences of family and peers have generally shown that parental influence decreases and peer influence increases with age [12]. The significance of parental influence on very young children is supported by research which notes that mother-child interaction is most effective in developing consumer skills at the kindergarten level:

> Mother-child interaction variables clearly provide positive support for the kindergartener's performance of consumer skills, but not for third- graders and sixth-graders, where the pattern of relationships is mixed. The result suggests that the role of parent-child interaction in supporting the child's performance of various consumer skills decreases with age... [13, p. 151].

Parents can have a major impact on developing the consumer skills of their children. It should be noted, however, that mothers actually have very few specific goals for their child's learning of consumer skills. Instead, it appears as though much of the teaching process is unintentional on the part of parents and occurs more subtly through imitation and modeling influences.

Because of the informal and often indirect consumer training practices of parents, other socializing agents are needed to pick up where parental training leaves off and schools seem to be the most likely candidates for the job. As one researcher says, "... apparently parental 'consumer training' of offspring is more often a hit-and- miss proposition, leaving gaps that schools could fill" [13, p. 188]. Other researchers [11] lend support to their argument that classroom consumer education is an effective way of developing the consumer skills of preschoolers. Children between the ages of two and six are capable of learning in a classroom setting certain "core consumer concepts" which can then be built upon in the development of more sophisticated consumer behaviour.

The impact of television advertising upon children has been the subject of much debate in recent years. The debate centers around whether the effects of this advertising are good or bad. Although television advertising does contribute to some consumer learning by providing product and shopping information, other socializing agents, such as the family, tend to mediate the effects of advertising [13]. Teaching children to evaluate and deal with the effects of advertising is also an educational task for classroom teachers. Consumers obtain much of their consumer information from television [6]. Both young children and adults, cite television as a primary consumer information source [2, 5].

At the preschool level then, the family and the schools appear to have the greatest potential to influence the consumer socialization process. Influence from peers is more significant in the socialization of older children, and advertising, although it does contribute to some consumer learning, is subject to mediating effects from both families and schools. The focus here will be on the role of the schools in socializing the preschool child into the consumer role.

WHAT PRESCHOOLERS KNOW

In general, young children (3-5 years) have very isolated ideas about the marketplace. While they do have numerous experiences with nearly every concept of economics, these experiences are fragmented, without any explanation or relationship to other experiences they have had [10]. Also children of this age are not able to generalize well from the general to the specific [4], and therefore, everything they learn must be acquired by experiencing things first-hand. In other words, perschoolers learn by doing. The idea of time and the future are difficult for a small child to grasp and therefore, their

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[1] The financial assistance of the Ontario Ministry of Consumer and Commercial Relations in conducting the research is gratefully acknowledged.

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knowledege is based on immediate experiences in the here and now. Table 1 outlines the results from the several research projects which have focussed on knowledge levels of the young child.

One of the most interesting problems for researchers arises out of newer evidence that young children may know quite a bit more than first thought. Our failure to so conclude may be based in our reliance on verbal reports and elaborations. The limited ability of young children to make themselves understood in the test environment may result in our underestimating their actual level of knowledge.

TABLE 1

General Research Results of
Preschoolers' Knowledge of Consumer Concepts

Money	
- quantity	- bigger or more coins = more value
- coin recognition	- penny, sometimes one other
- purpose/use	- "to buy", to count
- source	- little knowledge, little link to jobs
- saving	- little understanding
- price	- not clear that specific amounts needed to purchase
Shopping	
- stores	- know several kinds and their products
- transaction	- both shopkeeper and customer handle money unclear re transfer of ownership and money
- source of goods	- unclear
- banks/banking	- little understanding of function - know it as source of money
Job and Work	
	- recognize term know that parent(s) do it may know generally what parent(s) job is if not conceptually complex (teacher, doctor)
Television Advertising	
- recognition	- based on perceptual cues (shorter, louder)
- purpose	- little knowledge, often egocentric ("so I can go to bathroom")
- techniques used	- can link characters & products they advertise
- intent	- little knowledge, don't understand why ads are shown, some understanding if parental instruction
- truthfulness	- believe
- liking	- attentive and generally like
Overall	
	- disjointed information - isolated learning - no clear concept of the marketplace systems, its "actors" and functioning

CAN SCHOOLS BE OF HELP?

Rationale for Early Childhood Consumer Education

It is difficult to assess the relative impact of schools on the consumer socialization process because of the lack of research in this area. One of the first studies on consumer education [11] for preschool children found that children of this age group are capable of learning and understanding certain basic consumer concepts which can lead to the development of more sophisticated consumer behaviour. The authors of the study argued that children should begin their consumer education as early in their lives as possible.

> The preschool child of age four or older has probably had more marketplace experience than, say, exposure to writing or arithmetic. The child probably regularly goes shopping with a parent, chooses cereal, candy toys or comic books... Should not this informal learning be built upon from the beginning of the child's formal education [11, p. 13]?

A survey conducted by the Western Provincial Task Force on Elementary Consumer Education indicates that elementary school teachers are generally supportive of consumer education programs for children. Responses from the teachers led the Task Force to conclude that "...children should experience consumer education at the earliest possible age in the formal school system to understand their wants and needs, and to assess the claims of sellers" [3, p. 297].

Program Type

Teachers have indicated that, while they support the introduction of consumer education programs, they are concerned about the lack of time available in the curriculum to treat it as a separate subject [8]. Instead, they feel that an integration of consumer concepts into existing language, art, science, health, and arithmetic curricula would be more efficient and successful. This opinion appears to be consistent among most early childhood consumer educators. Consumer education programs introduced in this way would probably be more successful than a separate, structured program because an integration of consumer concepts would require less adjustment and reorganization on the part of the teachers. Activities and resources that can easily be used within the existing curriculum are more likely to be accepted and utilized by educators.

The study be Stampfl, Moschis and Lawton [11] involved the testing of two different classroom procedures in order to determine the most effective classroom approach for consumer education instruction to be used with preschool children.

The first approach used an open framework centered around Piaget's theory of cognitive development. According to this theory, children learn by exploring and interacting with their environment. The development of cognitive abilities occurs through a series of stages. Preschool age children are usually at the preoperational stage of development which suggests they they are incapable of understanding logical relationships.

The second approach involved a formal framework based on Ausubellian principles. Ausubel's learning theory suggests that learning is based on children's ability to understand new information by relating it to previous knowledge [2].

Therefore, children are taught basic general ideas and then exposed to specific learning activities.

Both of the programs were designed to include the following concepts: store; product; need recognition; seeking for product alternatives; price; money to spend; checkout; choice of product; and paying for products. Two post tests were conducted where children's behaviour was observed while they particpated in a shopping game. The data indicated that those children receiving formal structure teaching performed better in both post tests than did children who received open structure teaching. The authors concluded that preschool children are capable of learning the "building block concepts" of consumer education and that the teaching approach used in the classroom will influence the effectiveness of this learning process.

Another factor that appears to be important in consumer education programs for preschool children is the extent to which parents are involved in the program. The research indicates that the more successful classroom programs involve parents in the education process [1, 7].

One study designed to assess the effectiveness of a consumer education program for preschoolers looked at the parent's role in the program and found that interactions between parents and children turned out to be the highest predictor of how well the children could master economic principles [7]. Similarly, results of a study of the effectiveness of a program to teach young children about energy conservation indicated that the most effective results were obtained when the school curriculum is integrated with home activities [1].

In summary, the research indicates that an effective way of introducing a consumer education program for preschool children would be to integrate consumer concepts into the existing curricula (i.e. arts, language, science and health) using a formal, structured framework that in some way encourages parent participation in the learning process.

Program Content

The question of what to include in a consumer education curriculum has drawn varied responses from reserchers and educators. Stampfl, Moschis and Lawton [11] are of the view that certain learning properties act as a foundation for the development of complex consumer behaviours and that this foundation should be established at the preschool level.

They have identified these general concepts which serve as "consumer education building blocks":

1) economic system concepts, including subconcepts related to private property, money, price

2) distribution system concepts, including subconcepts related to retailers, merchandise assortment, branding, ownership, the exchange process and purchase transactions

3) consumer concepts, including subconcepts related to the decision making process, buying motives, search for and evaluation of alternatives, budgeting, purchasing power and the buying process

The criteria used in choosing these three concepts were that the concept must be fundamental in nature in that

1) knowledge of the concept is necessary to understand marketplace functions and interrelationships

2) it is understandable to young consumers

3) it is relevant as a foundation for future consumer learning

Results from their research clearly indicate that preschool children can learn the building blocks of consumer education. Kourilsky's [7] study has focused primarily on the concepts being taught in the program in order to identify those that are understandable and those that are beyond the capabilities of the preschool child. High mastery was obtained in a preschool consumer education program for four concepts: scarcity; decision-making and cost benefit analysis; production; and business organization. She concluded that, although it appears that children learn some concepts better than others, the overall economic knowledge of the preschool pupils increased after participating in the consumer education program.

Another topic that can be introduced in a classroom setting is advertising. Television is an everyday part of most children's lives and as such, it is relatively simple to introduce the topic of advertising into the curriculum. Teaching children to deal with TV commercials may become more critical in the future as more and more researchers are suggesting that this may represent a compromise solution to the debate between advertisers and consumer groups such as ACT who are totally against advertising to children. One researcher states that "...rather than attempting to protect children from television commercials, which of course, would be impossible, efforts should be made to prepare children to handle it" [9, p. 6].

TESTING A PRESCHOOL CONSUMER EDUCATION PROGRAM

The purpose of the present investigation was to complete a thorough evaluation of the consumer education kit entitled "Consumers: Start Young" which was developed by the authors of this report under grant from the Ontario Ministry of Consumer and Commerical Relations. This particular curriculum package was designed for use with the children from 3 to 5 years of age, however, the concepts and activities presented are relevant to children up to 7 years of age.

The kit consists of six components:

a) Decide Yourself (storybook)
b) From Seed to Shelf (storybook)
c) Decide Yourself (children's tape/slide presentation)
d) Decide Yourself (adult's tape/slide presentation)
e) Teachers' Manual
f) Resource Manual

The aim of this curriculum was to help teachers provide opportunities for preschool children to experience and learn selected consumer concepts. Therefore, the main intent of the package was to increase the knowledge and understanding of preschoolers in this area. One of the goals of the present investigation was to assess whether in fact children exposed to these materials did gain knowledge about the concepts presented. Evaluation of the two storybooks and the tape/slide presentation was done with this intent.

A second aspect of the study was to specifically test the strength of the advertising unit of the kit. Based on a needs assessment conducted with educators and parents prior to the development of the kit, the area of advertising was given an emphasis. This was accomplished through the development of a storybook entitled "Decide Yourself" which focuses on advertising. This storybook was also developed into a tape/slide presentation for children. Finally, the advertising unit was elaborated upon in the Teachers' Manual. Evaluating the gains in the knowledge of children based on exposure to this entire advertising unit became another area of the evaluation. This unit required several days' involvement during which the teachers read the storybook, showed the tape/slide and provided activities in large circle, small circle, etc. centering around advertising. In some cases the storybook was also sent home with the parents.

The final aim of this study was to assess the effects of various presentations of similar materials. Children of this age group are very much influenced by what they see and hear. They are exposed to a wide variety of both printed and visual materials. A study of the effects of various methods of presentation on the knowledge acquired by the children was conducted by comparing the storybook and the tape/slide presentation of Decide Yourself. The effects of more in-depth presentation was also assessed by comparing the entire advertising unit of the kit with each of the other two presentations.

Methodology

A questionnaire was developed to assess the knowledge gained by the children based on exposure to the storybook, slide tape, or the entire advertising component of the consumer education kit. The questionnaire was constructed considering the content of the story, key concepts and the objectives outlined in the kit. The same questionnaire was used to test all three levels of program exposure.

Sample

The day care centres participating in the study were contacted in a non-random fashion to provide a range of population. In addition, since the study required centres to rearrange schedules and provide activities, more day care centres were contacted than the final number indicated. Centres were given the choice of reading one of the storybooks, showing the tape/slide presentation or doing the total advertising component. Each centre participated in one aspect of the study. Children were questioned by two researchers on a one-to-one basis. Variables considered in selecting centres included rural/urban location, public and private funding, serving low, middle or upper income groups. The final sample included 19 centres and 222 children. Table 2 provides a breakdown of the characteristics of children involved in the various components of the evaluation.

TABLE 2

Characteristics of the Participating Children

	Sex			Age		Children		Preschool
	Male	Female	Total	2-4	5-6	Pre-test	Post-test	Centres
Decide Yourself (Book)	27	45	72	29	43	40	64	6
Decide Yourself (Tape/Slide)	48	58	106	61	45	50	97	9
Advertising Unit	20	24	44	30	14	26	41	4
TOTAL	95	127	222	120	102	116	202	19

Procedure

Initial contacts with day care centres were made by telephone. In some cases this was followed by a visit, to introduce the Consumer: Start Young program and to set up dates for the actual interviews.

Pretests were generally conducted in rooms separate from the class activity. For the pretest condition, researchers questioned on a one-to-one basis, half the children that would be involved in the study. The children for the pretest were chosen from the total sample by teachers, the researchers, or the children themselves.

The story or tape/slide presentation was carried out generally two days later with the researchers present. The atmosphere under which the material was used was noted at this time. Posttest questionnaires were then completed with all of the children in the study. Interview conditions were similar to those conditions of the pretest. Kit evaluations were then given to teachers.

In the case of centres participating in presenting entire advertising unit, the researchers were not present for the actual activities. Posttests were completed four to five days after the pretests and within 2 days of the completion of the presentation and activities.

Reliability was ascertained both in the actual interviewing and in the coding of interview responses. In the interviews, all questions were read as written, and the researchers observed one another in practise to ensure that the same tone and emphasis were given to the questions.

Interrater reliability was established for the coding of interviews. This was done by independently coding a random selection of interview schedules each. Ninety-six percent agreement was established.

For analysis the questions on the questionnaire were divided into two types:

Content questions - those dealing with the actual events in the storybook and slide/tape presentation (post-test only).

Concept questions - those dealing with general issues of advertising in the storybook and slide/tape presentation.

A variation of the student's t-test for large populations was used in analysing changes in the pretest and posttest scores of the children on the concept questions alone. Children could get a total of 18 possible points for concept questions.

Analysis of the content questions could only be done once the storybook or slide/tape had been presented. The children could get a possible 6 points on story content. A descriptive analysis of the relationship between content and concept scores of the children was conducted on the story and the slide/tape presentation.

The relationship of the concept learning of the entire advertising component of the kit to the storybook used alone and to slide/tape presentations used along was done using the variation of the t-test for large populations. The posttest results of the entire advertising unit of the kit compared separately to the book and the slide/tape presentation were conducted.

RESULTS

The scores for the test of understanding of the advertising component for the children involved in all three treatments are reported in Table 3.

Storybook

Although the advertising understanding average score was higher following the reading of the story book (6.5 over 5.9), the increase was not statistically significant. One reading of the book was not sufficient to greatly increase knowledge - not a surprising result for preschoolers. The pretest also did not have a significant effect on post test scores.

TABLE 3

Results of Children Participating in the Three Treatments

	Number	Mean	Significance Levels of Differences	
			Prestest Effect	Program Effect
Book				
Pretest	40	6.0		
Posttest (took pretest)	34	7.1		
Posttest Only	32	5.9	N.S.	N.S.
All Posttest	66	6.5		
Slide/Tape				
Pretest	50	5.1		
Posttest (took pretest)	40	6.4		
Posttest Only	56	6.0	N.S.	.10
All Posttest	96	6.2		
Advertising Unit				
Pretest	26	5.9		
Posttest (took pretest)	22	9.0		
Posttest Only	16	8.1	.0 5	.05
All Posttest	38	8.6		

Analysis of the questions measuring understanding and recall of the story content compared with the concept questions indicated that as children scored higher on content, there was a corresponding increase in their scores on the concept questions. Those who understood and retained more of the story, understood and learned more about advertising. This suggests that the story format is successful in its goal, children can learn from it, and repeated readings would likely increase knowledge about advertising.

Tape/Slide Presentation

Again there was no pretest effect on posttest scores. However, there was a significant impact of the tape/slide presentation on children's understanding of advertising concepts ($\alpha < .10$). Again, those children who scored higher on content knowledge, also scored higher on concept knowledge suggesting the value of the presentation.

Comparisons were done on each of the concept questions to determine which showed the most change from pretest to posttest. The questions which showed the most improvement in the children's knowledge were:

1) What happens in a T.V. commercial?
2) How is a T.V. commercial different from a T.V. program?
3) Why are commercials shown on T.V.?

These areas are highly central to what has been suggested are the necessary understandings basic to perceptual self-defense against advertising messages.

There was wide variability across the day care centres in the way the slide presentation was shown. Conditions such as lighting, size of room, distractions, time of day can have an effect on on the impact of the presentation. For example, if the room is bright, the slides cannot be seen clearly and the color is dull. If the room is too small and the projector too close to the wall or screen, the pictures are small. Such variability can occur in a study using naturalistic settings. In this study, the centres varied in their average scores from a high mean of 12 to a low of 3.6. As researchers we clearly saw the relationship between environmental conditions and test scores.

The Advertising Unit

The total advertising unit was completed by four day care centres. This involved the reading of the storybook, the tape/slide presentation, and activities chosen or developed from the Teacher's Manual relating to advertising. A total of 38 children participated in this aspect of the study.

The posttest scores of the children who took the pretest were significantly higher than those children not pretested ($\alpha < .05$). Therefore, the pretest did have some effect. The results, however, of the pretested children compared to all children posttested were still significant ($\alpha < .05$). When the prestested group is compared with those children who only had the posttest the results are staggering ($\alpha < .005$).

There was a wide variability in scores across the four centres. This again could be related to the way materials were presented to the children. The centre with the highest mean score spent much time on the project. The storybook was read, and also sent home to parents. Activities covered three days with discussion about needs and wants and product selection. A cardboard T.V. was designed and children made their own commercials.

DISCUSSION AND CONCLUSIONS

A split pretest/posttest designed was used. In only one instance, that of the advertising unit test, did the pretest have a significant effect on the posttest results. Reasons for this effect could be the increased exposure to the words advertise and commercial which were key words for this program. Also, children taking the pretest had been selected by the teachers. The criteria for selection varied i.e. more talkative, more outgoing, more advanced children could have been chosen. In one case the pretested children were the oldest in the program.

The nonsignificant difference found for the single presentation of the storybook, Decide Yourself, is not surprising. A single reading of a book cannot hope to accomplish the task of having children understand key concepts as abstract as those relating to advertising. In addition, depending on the size of the group, teacher's knowledge of the content and concepts to be presented, interruptions, variations in story reading ability and teacher preparation, the children may not have the time to digest what had been read.

It can be suggested that the book be used to complement more in-depth activities on advertising. Also, teachers should possibly prepare for the reading of the book by providing experiences and/or discussion around the topic of advertising. At the least, children should be exposed to the new vocabulary words prior to the reading of the storybook.

The tape/slide presentation had a much stronger impact on the children's understanding of the concepts presented. The medium, itself, is attractive and holds the attention of the children. The colourful slides, song, vocal variation are all appealing to the young child.

There was a wide variability in the facilities for the presentation of the tape/slide production. Some programs had dull pictures due to too much light, others had small pictures due to cramped space, and others had distractions in terms of children giggling, upset, or leaving. It can be suggested that, if possible, the production be shown in a room that can be darkened and is removed from other sources of activity. It is suggested that teachers should discuss the production with children prior to their viewing the slide/tape. Key vocabulary such as advertise, commercial, decide, could be introduced. Key points of the presentation could be identified by the teachers. In some instances the presentation could be stopped and teachers elaborate on the points raised. If time is available, children could benefit from two presentations of the tape. One could follow more of an instructional format with teachers questioning and explaining throughout and another to allow the children to review the tape uninterrupted.

There is a direct relationship between the children's ability to discuss the events of the story and their knowledge of the concepts presented in the slide/tape production. It is important, therefore, for teachers to clarify and reinforce the content presented. "What was Momma Rabbit doing? Did the children all like the cookies? Where did the cookies come from?" Discussion around the production of the cookies, likes and dislikes of the children in the show, decisions they made about who makes the best cookies, can all be reviewed by the teacher. This type of discussion and reinforcement should also occur in the reading of the storybook.

The development of an entire unit on the advertising theme has the most impact on the children's understanding of the concepts presented. The increased exposure through the storybook, slide/tape, and related activities in itself accounts for the increase in scores. The two components alone provided more exposure to the key concepts and vocabulary that were necessary. The additional activities, while varying across sites, could only reinforce what was already presented. Scores across sites varied with the depth of the activities planned and conducted by the centres. Teachers who had clear goals, who themselves understood the concepts presented, who discussed the relevent issues and planned thoughtful activities had the best results. Again, the importance of the teacher in planning and presenting the program is seen.

As final conclusions, two points are raised:

1. Preschool children can learn relatively complex consumer concepts from creatively prepared, well-presented consumer education materials. Their concept learning is related to their extent of content learning so more exposure, using a variety of interesting materials and experiences, and involving both teachers and parents in the learning process all helps.

2. Those who prepare such materials should also be allowed, even required, to test their effectiveness. Too often limited funds are available for preparation of consumer education and absolutely none to make sure the desired results were achieved and to point out where improvements can be made in the future.

REFERENCES

1. Braun, Bonnie, and Wilson, Elaine. Energy Education: The MIZER Series. Stillwater: Oklahoma State University, 1978.

2. Caron, Andre and Ward, Scott. "Gift Decisions by Kids and Parents." Journal of Advertising Research, 15:4 (August 1975) 15-20.

3. Chamberlin, Richard J. "A Case for Consumer Studies in the Early Grades." Elementary School Journal, 78:5 (1978) 295-303.

4. Consumers' Union of United States. *Early Childhood Consumer Education*, Mount Vernon, N.Y.: Consumers' Union of United States, 1973.

5. Frideres, James S. "Advertising, Buying Patterns, and Children." Journal of Advertising Research, 13:1 (February 1973) 34-36.

6. Johnson, Jean. "And Now a Word From Our Sponsor...Let the Children Beware." Teacher, 94:8 (1977) 83-86.

7. Kourilsky, Marilyn. "The Kinder-Economy: A Case Study of Kindergarten Pupils' Acquisition of Economic Concepts." The Elementary School Journal, 77:3 (1977) 182-191.

8. Portland Public Schools. *An Integration of Career and Consumer Education and Reading and Language Arts Program Goals*. Portland, Oregon: Portland Public Schools, 1974.

9. Reid, Lenar N. "Regulating Children's Television Advertising: Reassessing Parental Responsibility." Paper presented at the Annual Meeting of the Association for Education Journalism, 1978.

10. Robinson, H. and Spodek, B. *New Directions in the Kindergarten*. New York: Teacher's College Press, Columbia University, 1965.

11. Stampfl, Ronald W., Moschis, George, and Lawton, Joseph T. "Consumer Education and the Preschool Child." The Journal of Consumer Affairs, 12:1 (Summer 1978) 12-29.

12. Ward, Scott. "The Effects of Television Advertising on Consumer Socialization." in The Effects of Television Advertising on Children, by Richard I. Adler (ed.), Toronto: Lexington Books, 1980.

13. Ward, Scott, Wackman, Daniel B., and Wartella, Ellen. *How Children Learn to Buy*. Beverly Hills: Sage Publications Inc., 1977.

UNDERSTANDING YOUNG CONSUMERS:
COGNITIVE ABILITIES AND TASK CONDITIONS

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ABSTRACT

Questions regarding the cognitive abilities of young children have generated considerable interest among consumer researchers, government regulators, and consumer educators. Most of the research has focused on the issue of *whether or not* young children possess the processing skills needed to perform a variety of consumer tasks. Current research in developmental psychology, however, suggests that we should also begin to address the question of *when* children may or may not exhibit these processing skills. This paper examines several classes of task factors or conditions which have the potential to influence children's abilities to perform well in consumer settings.

INTRODUCTION

Over a decade of research has been devoted to assessing the extent to which children can understand advertising messages and product claims, evaluate and judge product alternatives, and make informed product choices. The majority of studies in this area have focused on the issue of *whether or not* children are able to perform consumer tasks such as evaluating advertising and judging advertised products. In doing so, evidence has accumulated which supports the view that many children, particularly young children, cannot critically evaluate advertising claims and advertised products, cannot direct their attention to important aspects of commercial messages, cannot adequately judge the value of product alternatives, and cannot use product information effectively in making product choices (for a review, see [1]). Findings such as these have contributed to our understanding of children's consumer abilities and have also provided valuable input into public policy concerns regarding children.

Despite the contributions of this line of inquiry, current research in developmental psychology suggests that we should shift our research focus from the question of whether or not children have certain abilities to the issue of *when* children can be expected to exhibit these abilities. This view is supported by a large body of developmental research which documents the fact that children's abilities are seldom exhibited in an all-or-none fashion--children perform well under some task conditions but not others. In consumer settings, for example, children's ability to understand advertising claims may depend on the terminology used to describe the claim and the amount of commercial time devoted to describing the claim. By failing to investigate potential factors such as these which may affect children's performance, it is quite possible that we have either underestimated or overestimated children's consumer skills and abilities. This possibility is particularly unsettling due to the fact that past results regarding children's abilities have been the cornerstone for regulatory policies toward marketing to children. Thus, there is a need to extend our scope of investigation beyond the current focus to one which includes a consideration of conditions under which children abilities can be expected to surface.

This paper examines a number of task factors which affect processing demands and have the potential to influence children's performance in a variety of consumer tasks. In particular, this review examines *quantitative factors*, which affect the amount of task-related information to be processed, and *qualitative factors* which affect the effort required to process task-related information. Evidence pertaining to each of these factors is discussed in detail below.

Quantitative Factors

Quantitative factors can reduce processing demands by reducing the amount of task-related information that needs to be processed. This is typically achieved by reducing the total amount of information in a task (see [11]). Reducing the total amount of information increases children's abilities in a variety of situations such as problem-solving [2] and choice [10].

Processing demands can also be reduced by reducing the amount of information that must be processed at one point in time. A processing task is separated into its component parts and the information relevant to each part is presented sequentially. This approach appears to be particularly successful in problem-solving tasks [9].

Qualitative Factors

Qualitative factors can reduce processing demands by reducing the effort required to process task-related information. Encoding, organization, and retrieval operations can be facilitated in three different ways--by varying information formats, instruction sets, and response formats.

Information Format. The manner in which information is presented also influences the effort required to process information [3]. Among those format factors that might be considered, organization and mode of presentation appear to have the strongest and most consistent effects on children's processing abilities.

Mode of presentation can facilitate processing by promoting multiple associations to single items of information in memory [21]. Children remember information conveyed in a pictorial form better than written [12] or spoken words

[18]. The addition of pictures to spoken words enables children to remember more information than words presented alone [19,24]. Mode effects are also evident in narratives. The addition of pictures to written texts increases recall over that obtained with the written text alone [26].

Information organization, in contrast to presentation mode, facilitates processing by promoting associations between discrete items in memory. Children remember related pieces of information far better than unrelated pieces. In particular, children can recall more material when information is organized according to taxonomic categories [12,32] or, in the case of narratives, organized with respect to temporal order [8,13].

Instruction Set. Instruction sets can reduce processing demand by reducing the effort required to use certain mnemonic strategies. Instructions can be used to inform children when to use a strategy, how to use a strategy, or both. As such, instructions can reduce the amount of processing effort that might otherwise be needed in deciding what strategy to use or in producing the correct strategy.

Two types of instructions have proven useful in guiding the encoding and storage of incoming information: rehearsal instructions and imagery instructions. Rehearsal instructions, which typically involve telling children to practice sequentially-presented pieces of information together, enhance young children's ability to remember information [6,16,25]. Imagery instructions, which typically entail asking children to create mental pictures or to imagine how objects "go together," also have a facilitating effect on young children's memory for information [17,20,31].

Instructions can also be useful in guiding the organization of incoming information. Children are typically told to sort items into groups of items that are similar. Instructions to sort in this manner are thought to be helpful because young children may otherwise fail to use their knowledge of relationships as a means for organizing incoming information. By increasing the saliency of organizational strategies, sorting instructions do increase young children's ability to remember information [5,22,30].

Response Format. The manner in which children are required to respond to the task can also reduce the processing difficulty of the task. Some methods for measuring performance appear to place greater processing burdens on children than others.

Differences between recognition and recall formats provide the best example of this problem. In recognition formats, learning is assessed by asking children to recognize which information (pictures, words) was previously presented versus that which was not. In recall situations, learning is assessed by asking children to play back everything they remember without external cues to aid memory. Recall formats are more difficult for children because they depend upon the retrieval of information from memory without external prompts and because they involve children's verbal abilities [7]. Children typically recognize much more commercial-related information than they are able to recall [14,15,23,28, 29].

SUMMARY

A number of quantitative and qualitative factors have the potential to influence young children's processing skills. These factors need to be incorporated into our research on children's consumer abilities to understand the range of abilities which exist among young consumers. The issue of *when* children exhibit these abilities is just as important, or perhaps even more important, than the questions addressed in previous research.

REFERENCES

1. Adler, R. P., Lesser, G. S., Meringoff, L. K., Robertson, T. S., Rossiter, J. R., and Ward, S. *The Effects of Television Advertising on Children*. Lexington, MA: Lexington Books, 1980.

2. Baron, J., Lawson, G., and Siegel, L. S. "Effects of Training and Set Size on Children's Judgments of Number and Length," *Development Psychology* 11(1975)::583-588.

3. Bettman, J. R. *An Information Processing Theory of Consumer Choice*. Reading, MA: Addison-Wesley Publishing Company, 1979.

4. Bjorklund, D. F. "Children's Identification and Encoding of Category Information for Recall." Unpublished doctoral dissertation cited in Ornstein and Corsale, 1979.

5. ____________, Ornstein, P. A., and Haig, J. R. "Developmental Differences in Organization and Recall: Training in the Use of Organizational Techniques," *Developmental Psychology* 13(1977):175-183.

6. Bray, N. W., Justice, E. M., Ferguson, R. P., and Simon, D. L. "Developmental Changes in the Effect of Instructions of Production-deficient Children," *Child Development* 48(1977):1019-1026.

7. Brown, A. L. "The Development of Memory: Knowing, Knowing About Knowing, and Knowing How to Know," in *Advances in Child Development and Behavior* Ed. H. W. Reese, New York: Academic Press, 1975.

8. ____________ and Murphy, M. D. "Reconstruction of Logical Versus Arbitrary Sequences by Preschool Children," *Journal of Experimental Child Psychology* 20(1975): 307-326.

9. Bryant, P. E., and Trabasso, T. "Transitive Inferences and Memory in Young Children," Nature 232(1971):456-458.

10. Capon, N., and Kuhn, D. "A Developmental Study of Consumer Information-Processing Strategies," Journal of Consumer Research 7(1980):225-233.

11. Case, R. "Intellectual Development from Birth to Adulthood: A Neo-Piagetian Interpretation," in Children's Thinking: What Develops? (Ed.) R. S. Siegler, Hillsdale, NJ: Lawrence Erlbaum Associates, 1978.

12. Cole, M., Frankel, F., and Sharp, D. "Development of Free Recall in Children," Development Psychology 4(1971):109-123.

13. Collins, W. A., Wellman, H., Keniston, A., and Westby, S. "Age-related Aspects of Comprehension and Inferences from a Televised Dramatic Narrative," Child Development 49(1978):389-399.

14. Donohue, T. R., Henke, L. L., and Donohue, W. A. "Do Kids Know What TV Commercials Intend?" Journal of Advertising Research 20(1980):51-56.

15. Gianinno, L. J., and Zuckerman, P. A. "Measuring Children's Responses to Television Advertising," Paper presented at the annual meeting of the American Psychological Association, 1977.

16. Hagen, J. W., Hargrave, S., and Ross, W. "Prompting and Rehearsal in Short-Term Memory," Child Development 44(1973):201-204.

17. Jusczyk, P. W., Kemler, D. G., and Bubis, E. A. "A Developmental Comparison of Two Types of Visual Mnemonics," Journal of Experimental Child Psychology 20(1975):327-340.

18. Kee, D. W. "Storage and Retrieval of Noun Pairs in Children's Recognition Memory: Analysis of Presentation Mode and Elaboration Effects," Journal of Experimental Psychology: Human Learning and Memory 2(1976):623-632.

19. ____________, Bell, T. S., and Davis, B. R. "Developmental Changes in the Effects of Presentation Mode on the Storage and Retrieval of Noun Pairs in Children's Recognition Memory," Child Development 52(1981):268-279.

20. Kemler, D. G., and Jusczyk, P. W. "A Developmental Study of Facilitation by Mnemonic Instruction," Journal of Experimental Child Psychology 20(1975):400-410.

21. Kieras, D. "Beyond Pictures and Words: Alternative Information-Processing Models for Imagery Effects in Verbal Memory," Psychological Review 85(1978):532-554.

22. Lange, G., and Griffith, S. B. "The Locus of Organizational Failures in Children's Recall," Child Development 48(1977):1498-1502.

23. Macklin, M. C. "The Influence of Task Demands on Outcomes: Preliminary Findings and Theoretical Implications to Advertising Research Involving Children," in R. P. Bagozzi and A. M. Tybout, Eds. Advances in Consumer Research, Vol. X, pp. 277-282, 1983.

24. Nelson, S. A. "Factors Influencing Young Children's Use of Motives and Outcomes as Moral Criteria," Child Development 51(1980):823-829.

25. Ornstein, P. A., Naus, M. J., and Stone, B. P. "Rehearsal Training and Developmental Differences in Memory," Developmental Psychology 13(1977):13-24.

26. Rusted, J., and Coltheart, M. "Faciliation of Children's Prose Recall by the Presence of Pictures," Memory and Cognition 7(1979):354-359.

27. Stacey, J. T., and Ross, B. M. "Scheme and Schema in Children's Memory of Their Own Drawings," Developmental Psychology 11(1975):37-41.

28. Wartella, E., Wackman, D. B., and Ward, S. "Children's Consumer Information Processing: Representation of Information from Television Advertisements," in H. K. Hunt, Ed., Advances in Consumer Research, Vol. 5, pp. 535-539, Ann Arbor: Association for Consumer Research, 1978.

29. ____________, Wackman, D. B., Ward, S., Shamir, J., and Alexander, A. "The Young Child as Consumer," in E. Wartella, Ed., Children Communicating: Media and Development of Thought, Speech, Understanding, Beverly Hills, CA: Sage Publications, Inc., 1979.

30. Worden, P. E. "Effects of Sorting on Subsequent Recall of Unrelated Items: A Developmental Study," Child Development 45(1975):687-695.

31. Yarmey, A. D., and Bowen, N. V. "The Role of Imagery in Incidental Learning of Educable Retarded and Normal Children," Journal of Experimental Child Psychology 14(1972):302-312.

32. Yoshimura, E. K., Moely, B. E., and Shapiro, S. I. "The Influence of Age and Presentation Order Upon Children's Free Recall and Learning to Learn," Psychonomic Science 23(1971):261-263.

ISSUES IN MEASURING YOUNG CHILDREN'S RESPONSES TO TELEVISION ADVERTISING

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ABSTRACT

Much of the academic literature on children's understanding and beliefs about television advertising was written during the 1970's when the Federal Trade Commission was active in its investigation of effects. In general, the young child was described as being unable to process or defend against commercial information. This conclusion was mainly based on oral reports conducted with children. It is argued that the nature of the measurement (i.e., direct, oral interviews) may have resulted in an inaccurate view of children's abilities. New directions in measurement are suggested.

INTRODUCTION

In February, 1978, the Federal Trade Commission published its influential report, "FTC Staff Report On Television Advertising To Children." [26] This staff report outlined conclusions made about children's processing of commercials, or lack thereof, and presented alternative remedies to correct abuses. The report can be viewed as a summary of these prevailing beliefs about advertising's effects on young audiences. Based on academic studies and testimonies of experts, the report concluded the following about television advertising and children's responses to it:

1. Television advertising for children is developed from direct testing and observation of the child audience [26, p.60]. Techniques are used that implant ideas in the child's mind. Such effective techniques include magical promises, motivating scenes, use of music, super heroes, voice of authority, and peer group acceptance appeals.

2. Children are confused about television advertising [26, p.82]. Preschoolers possess cognitive and perceptual limitations as outlined by Piaget's theory. Thus, although young children can "parrot" a message, they rarely understand what the message means. School-age children are also at a disadvantage. They are unable to differentiate between programs and commercials, to understand the selling purpose, and to resist making demands on their parents.

The FTC staff writers consistently cited another influential document, the National Science Foundation Report [2], as providing convergent evidence for the Commission's position that the child is a vulnerable viewer. An examination of this latter report, along with the FTC one, indicates that the similar conclusions were based on an expansive academic literature that possessed a distinctive methodological feature. In personal interviews, children were asked to orally articulate their understanding and beliefs [2]. The limitations of this approach will now be discussed.

THE PROBLEM

The problem with the bulk of studies conducted during the 1970's on children's advertising was their overwhelming reliance on language skills. The research tasks were age inappropriate because they required young children to use advanced skills that were perhaps absent. Chestnut [12] first pointed out this methodological deficiency to advertising researchers. Children may have "failed" tasks because they did not understand instructions and/or were unable to articulate responses. Brown [9, 10,11] effectively pointed out that young children can often recognize correct information, yet fail to freely recall their knowledge. In brief, children's abilities may have been inaccurately assessed during this era because the tasks used required advanced linguistical skills generally absent in children [20].

RE-EXAMINATIONS OF CHILDREN'S ABILITIES

Developmental psychologists have actively re-examined children's abilities to perform a wide variety of tasks. These re-examinations can be viewed as the "American" challenge to Piaget's traditional stage theory of development.

According to Piagetian research, a child progressed through a series of invariant stages. Piaget's prolific work dominated developmental psychology, and it had a distinguishing characteristic, its oral procedure. Both the instructions and elicited responses were highly verbal in their nature. Thus, a child who was of limited linguistical ability may have appeared incompetent, not because of an inherent inability to perform a task, but because of an inability to understand the task and/or to articulate an appropriate response. For example, Piaget [24] asked children to reproduce explanations about such physical events as the workings of water taps and syringes. Piaget reported that young children were unable to represent or to discuss physical events. Thus, they were egocentric. That is, they interpreted the world only in terms of self.

Gelman [17] argued that the literature in developmental psychology was indeed biased by descriptions of what the young child cannot do. She [17, p.311] argued that we all look egocentric when we try to explain something we do not quite understand or remember.

Empirical evidence was quickly mounting that childrens' communicative abilities had been underestimated. For example, Shatz and Gelman [29] had conducted three studies in which they illustrated that the child can communicate beyond his/her own perspective. They reasoned that the objects of water taps and syringes were simply too unfamiliar to children; therefore, they asked children to talk about a toy or a topic of the child's choice. They reported that 4-year olds possessed the ability to alter their speech in response to different-aged listeners, which included adults, 2 year-olds, *and peers. If children were truly egocentric,* then they would have been unable to adjust their speech beyond their own peer level. However, the young subjects produced shorter utterances when talking to 2 year olds. They were also inclined to use words which attracted attention of young children. Indeed, the closer in age the younger listener was to the speaker, the less the speaker adjusted his/her speech. Children were not inherently egocentric based on these findings.

Developmental psychologists actively pursued Shatz and Gelman's [29] challenge to the Piagetian framework during the 1970's. In a review of the expanding literature on children's communicative performance, Shatz [28]concluded that the context in which the communicative skills are assessed can have an effect on children's performance.

Moreover, recent research has extended the view that children are nonegocentric communicators. Children have been found to detect ambiguity [1] and to engage in comparison processes [35]. The Piagetian perspective suggested that these skills would be absent in the young child.

This challenge to the rigidity of Piaget's stages is not to suggest, however, that the abilities of the 4 year old match those of an adult. No developmental psychologist would argue for equivalence. Indeed, in a more recent review, Shatz [28] argued that the explosion of research essentially opened Pandora's box. Although knowledge about children's abilities increased and challenges to Piaget's theory were supported, more questions were raised than answered. For example, concern for the organizational aspects of performance has increased because young children appear to be deficient in the organizational quality of their knowledge. Pratt, Scribner, and Cole [25] reported that, although preschoolers could adjust rules of a game for their listeners, they produced the information in a disorganized fashion.

Shatz [28] argued that the investigation of such apparent deficits is difficult. Of special note is the problem of assuring that the young child actually understands the task that he/she is required to perform. Attention to both task instructions and task responses is essential in discovering children's actual abilities to perform communicative tasks.

Shatz's observations [28] are of keen relevance to the proposed re-examination of children's abilities to process television advertising. Different tasks may produce different indications of children's abilities. The next section of this paper will include discussion of how the design of the task can affect our conclusions made about the child's responses to commercial information.

NEW DIRECTIONS IN RESEARCH ON CHILDREN'S ADVERTISING

It is argued that advertising researchers have provided a narrow view of *children's abilities in* a commercial-information context because of their limited design of tasks which have reflected the Piagetian perspective. As described in the introduction to this paper, studies conducted during the 1970's employed direct, oral interviews to establish children's abilities. While the conclusions remain as our foundation of knowledge about children's skills, this research approach may have precluded accurate assessment. Children may not have understood what they were supposed to do (i.e., be responsive to a personal interview), and/or they may have lacked the ability to articulate a response satisfactory to the interviewer. Therefore, advertising researchers must attend to the nature of the tasks they design.

I will present a general discussion of four major concerns ever present as potential sources of bias. Then, I will identify two methods contained in the academic literature that are viable alternatives to the direct, oral interview. Finally, I will suggest that we examine current research practices of private firms working with children.

Four Potential Sources of Bias

Four potential sources of bias are: 1) instrument bias, 2) response sets, 3) subject characteristics, and 4) demand characteristics. First, instrument bias has already been suggested in this paper as a major hurdle in the accurate assessment of children's abilities to process television ads. Of course, we know that virtually all measures are inherently biased in their sampling of behavioral phenomenon. The researcher must carefully choose items that seem to measure a particular construct. The very wording of a question can make a difference in successfulness. An example follows.

In their most-cited work, Ward, Wackman, and Wartella [33] reported that only 10% of kindergarten children articulated the selling intent of advertising when asked, "what is a commercial?" That percentage rose to 22% when the question was phrased, "what do commercials try to do?" Wartella [34] reported a dramatic increase to approximately 50% when the question was stated in more concrete terms, "what does this commercial for (product X) want you to do?" A range of from 10% to 50% is considerable when the researcher is trying to establish the extent of understanding of the persuasive impact of advertising.

Instrumentation is a key concern, therefore. As developmental psychologists have reported, we advertising researchers will have to scrutinize our wording of instructions, try rewording key questions before drawing firm conclusions about children's responses, and use abundant common sense in designing instructions.

A second concern is for the appropriateness of response sets. Let me continue with discussion of the determination of children's understanding of the persuasive aspects of television. As discussed in the introduction to this paper, the FTC staff [26] concluded, based on academic evidence, that children under age 8 are unable to grasp commercial purpose. Donohue, Henke, and Donohue [15] reported dramatic indications that children's knowledge had been grossly underestimated. These researchers reported that 95% of 6 year-olds could correctly indicate commercial purpose by selecting one of two pictorial alternatives. Moreover, 75% of preschoolers aged 2 and 3 were successful.

I [21] challenged their conclusion, however, in a recent Journal of Consumer Affairs' article. While a quasi-replication indicated similarly high success, a redesign of the response set produced findings closer to those of Ward, Wackman and Wartella [33]. When two additional nonverbal measures (photos) were included, children were more likely to select an incorrect alternative that had been prior judged as attractive. Thus, four response alternatives resulted in a negative view of children's abilities, while only two indicated high success. Which response set constituted a more appropriate test of children's abilities? That answer is difficult to determine without additional evidence supplied from multiple and diverse tests of abilities. It was argued [21] that advertising researchers must slowly accumulate empirical evidence before offering prematurely definitive answers.

Another example of concern for response alternatives is supplied from industry. One popular, nonverbal response measure is the "smiling faces scale." Cutler [14] of Kennedy Research asserted that while a five-point, funny-face scale worked well with children over age 8, a three-point one was better suited to younger children. He reported that specific faces must be selected with care, however. When a mid-point face was drawn with a straight line representing a neutral-point mouth, young children misconstrued the intended neutrality to represent anger. It was a "mad face."

Once again, the importance of the specifics of response measures are highlighted. Kennedy Research's finding indicates that the representation of just one line can alter the researcher's intended representation of a measure. While it is maintained that such nonverbal response indicators are generally more age-appropriate for young children than the oral articulation method, such measures cannot be assumed, on face, to be valid. In short, all response measures need scrutiny.

A third major concern centers on the subjects' characteristics. While the majority of studies focusing on children's advertising effects have used white, middle-class children, the issue of external validity must be considered. Such factors of children's intelligence, television exposure levels, sex, and race must be recognized before generalizing specific findings to all children. For example, when Donahue, Meyer, and Henke [16] showed McDonald's commercials to black and white children, they reported different reactions based on race. The black children perceived McDonald's food to be better than what they ate at home. The white children did not provide similar indications.

While it is recognized that every study has its own unique set of subject characteristics and that no one study can include subjects that guarantee representativeness, researchers must consider the following. They must carefully describe the subjects' characteristics and be cautious in extending the findings to the general population of children. But, before discussing the fourth methodological concern, let me acknowledge that providing descriptions beyond race and sex is not always easy. Human Subjects Committees, parents, school administrators, and so forth, often object to personal questions that do not seem directly relevant. Access to subjects presents its own problem that may limit the researcher's quest for full information about his/her subjects.

The fourth methodological issue is the problem of demand characteristics. As we know, if subjects are aware of being studied, then they may develop their own hypothesis about expectations and alter their own behavior. Young children may be particularly prone to yeasaying. Yarrow [37, pp. 659-60] presented the following example of a 5 year-old's responses in a play interview:

> The child built an enclosure out of large blocks. The examiner asked, "Would you like to be in this all by yourself?" "Yes," replied the child. "Would you like your daddy with you?" "Yes." "Would you like your mommy in there with you?" "Yes." "Would you like to be in this all alone?" "Yes," this time with emphatic agreement.

A supporting illustration is again provided by industry. Novick [23] of Impulse Research Corporation reported that General Foods found a biased response in research about its new product "Pebbles" cereal. Children under the age of 9 tended to choose the broadly smiling faces of a six-point "faces" scale, regardless of what concept was shown or which product was tasted. Such insensitivity to differences may have resulted from a yeasaying tendency. The young children may have wanted to provide what they perceived to be desirable responses to the experimenter.

While the four issues of instrument bias, response sets, subject characteristics, and demand characteristics are not restricted to studies involving children as subjects, they have been neglected by researchers of children's advertising. The real question is not whether all biases can be eliminated, but whether additional explanations can be offered for findings. One step is to attempt to replicate original findings in a new context with new measures. As reported, recent work [21] with additional nonverbal response measures challenged Donohue, Henke, and Donohue's [15] assertion that young preschoolers understand commercial intent.

A second corrective step is to provide situations where the predictions of one theory are directly pitted against outcomes of another. If a researcher can support his/her predictions against a rival theory, then the theory appears more valid. When testing a theory from a variety of angles, triangulation, and reinforcing findings through replication, then the researcher is providing evidence that the theory is surviving a variety of different biases. Confidence can be better placed in the theory, therefore. As previously discussed, traditional Piagetian theory has not survived such tests. Predictions about children's communicative abilities were not borne out. A re-examination of conclusions about children's understanding and beliefs about television advertising may also shake prevailing views as represented in the *FTC Staff Report* [26].

Alternative Methods

Two alternative methods to the direct, oral interview can be identified in the children's literature on television advertising and programming. The first one, nonverbal response methods, was discussed in the preceding section on response sets. Donohue, Henke, and Donohue [15] and Macklin [21] used nonverbal alternatives (sketches and photos) to examine young children's understanding of commercial intent. As described, conflicting evidence was indicated.

An additional nonverbal response technique is represented by the work of Anderson and his colleagues [3, 4, 5, 6] who have doggedly examined the cognitive processing of television programs by preschoolers. Their work indicates that young children learn to watch TV in an active and strategic manner [c.f. 3] . This conclusion counters assumptions commonly made about the young child.

Anderson's research on attention has led him to re-examine the common assumption that the preschooler's comprehension of television is at best fragmentary and incomplete. Anderson and Smith [5 p. 137] pinpointed the paradox that while children are assumed to be incompetent or incomplete processors, then why do such cinematic techniques as cuts, dissolves, fades, and so forth, guide children's visual attention? Therefore, the researchers have examined the comprehension of cinematic montage (succession of images in a motion picture). By manipulating scripts with various production techniques, children were tested on reconstructing the order of events (e.g., a doll "Susie" and a bed to show her taking a nap) so that the children could indicate their understanding of sequencing of events.

Anderson and Smith [5] reported the 4 year olds as performing much more successfully than the prior literature would have suggested. It is argued that their selection of an age-appropriate task was key to finding more successful cognitive processing.

A second alternative method is represented by two very different research efforts which incorporate play as a dependent variable. First, Bjorklund and Bjorklund [7] presented a novel experiment in which their toddler subjects did not have to provide any direct responses to questions. The researchers manipulated a toy experiment and measured toddlers' 1) time per toy contact and 2) acts per toy contact.

Two raters coded the toddlers' behaviors, and the results indicated that differences in satisfaction existed under different *toy quantity* levels. However, the results from the two types of measures were not consistent; thus, definite conclusions were wanting. However, different *toy categories* produced consistent results. Toys that required organization (e.g., stack rings) were associated with longer contact times and greater numbers of acts as compared to responsive toys (e.g., squeak toy) and symbolic toys (e.g., toy telephone). Their findings indicated that observation of play may provide a viable means to test children's responses. It should be noted that their work represents more of the naturalistic perspective which is gaining interest in developmental psychology [36] .

Play can also be used as a dependent measure in a more structured context. Goldberg and Gorn [18] provided an example when they measured persistence at play (solving a puzzle that was advertised). They found that boys who viewed a commercial for the toy worked longer at solving the insoluble task. While Goldberg and Gorn's measure is very different from Bjorklund and Bjorklund's [7] in terms of degree of structure, both studies incorporated a highly familiar dependent measure, play. Task familiarity can assist children's performance.

A commonality between the two approaches, the nonverbal response technique and task familiarity, becomes apparent. Task design is critical in accurately assessing young children's abilities; thus, the task must be age-appropriate. First, nonverbal measures such as sketches, photos, and props can assist children in answering. Second, researchers can take advantage of naturalistic or structured observations of such familiar activities as play. Both of these approaches increase the age-appropriateness of a research design focusing on preschooler subjects.

Sources of Bias and Alternative Research Methods

While the four sources of bias, 1) instrument bias, 2) response set, 3) subject characteristics, and 4) demand characteristics, were primarily discussed in terms of direct, oral interviewing, the same problems can contaminate the findings from studies incorporating these other approaches. For example, the wording of instructions must always be considered in terms of age-appropriateness. Also, such demand characteristics as children's responding in a self-perceived, desirable direction must always be considered.

Overall, it has argued that task designs be constructed so as to be age-appropriate for the preschooler. Moreover, these tasks should be constructed so as to minimize sources of bias. Or, stated more precisely, the potential sources of bias must be consciously considered and openly acknowledged by the researcher. Once again, replication and triangulation are urged.

Learning from Industry

As a final note, it is suggested that we academic researchers learn from industry practitioners. For example, Child Research Service, a division of McCollum Spielman Research, has interviewed over one million children, teenagers, and parents. Hyatt [22] observed that while direct interviewing may pose problems, other techniques can be used. Indeed, "play" is considered a linchpin in extracting marketing information from children [13] .

For example, Child Research Service (CRS) suggests the use of play-acting as a focus group technique. In an overview, CRS suggests the following:

> Children act out the things they can't write or say. They might "show" what they thought of a new idea by acting out their response. In a further extension of this technique, the other children try to guess what one child is acting out [13] .

An excellent example is provided by a national paper product manufacturer seeking a new concept, a quasi bib-napkin, for children aged 3 to 6. Children were placed into "pretend family meal" scenarios and were asked to play "parents" with dolls and stuffed animals serving as their children [22] . Children were reported as enacting their roles well with lectures offered to the dolls on the importance of keeping clean at mealtime. The preschoolers rejected fancy bibs tied around the neck on the grounds that they were babyish. Yet, the pretend parents wanted their dolls' clothes protected. They wanted something grown-up to be placed on their laps. CRS assisted the manufacturer in designing a prototype that was within the young children's level of acceptance.

This example illustrates the two alternative methods discussed in the preceding section of this paper. First, the dolls served as props and provided instruments that were nonverbal in their nature. Second, the task, play-acting, was familiar to children. While the CRS study focused on a practical problem, it is argued that its method illustrates techniques than can help answer more "academic" questions as well.

SUMMARY

It has been argued that the bulk of existing literature on children's responses to television advertising may misrepresent the true abilities of young children. This assertion is based on the inappropriateness of the predominant research methodology, direct, oral assessment. Children under age 8 were portrayed as being incomplete, if not incompetent, processors based on direct questioning [26] .

As reviewed, developmental psychologists have found that young children's skills had been underestimated when their abilities were tested differently. For example, children were found not to be consistently egocentric in their communications [17, 29].

The changing view in developmental psychology of the preschooler's abilities challenged the rigidity of Piagetian theoretical perspective that had long-dominated the thinking of the field.

In accord, work on advertising effects on children revealed a reliance on the same Piagetian perspective. Advertising researchers may similarly find that children's abilities in a consumer context have been underestimated.

Four sources of bias, 1) instrument bias, 2) response set, 3) subject characteristics, and 4) demand characteristics were reviewed in terms of the established oral interview methodology. In addition two alternate approaches were suggested. First, the use of nonverbal measures (such as photos, props, etc.) was urged. Second, incorporating either structured or unstructured observations of familiar activities into designs was suggested. For example, play provides a familiar task whether it is structured or unstructured. It was noted that these alternative methods for extracting information are not free from sources of bias, which pose a threat to any and all designs. Finally, advertising researchers may want to learn from industry.

By adapting multiple approaches, replicating their use, and pitting theoretical implications against one another, we may better learn about children's abilities to process television advertising. As our learning accumulates, we advertising researchers may find that we also have opened Pandora's box [28]. That is, the more we learn about young children's abilities in a consumer context, the more we may realize what we do not know.

REFERENCES

1. Ackerman, Brian P. (1981), "Performative Bias in Children's Interpretations of Ambiguous Referential Communications," *Child Development*, 52, 1224-1230.

2. Adler, Richard P. (1977), *Research on the Effects of Television Advertising on Children*, Washington, D.C.: National Science Foundation.

3. Anderson, Daniel R. and Stephen R. Levin (1976), "Young Children's Attention to Sesame Street," *Child Development*, 47, 806-811.

4. Anderson, Daniel R. and Elizabeth P. Lorch (1983), "Looking at Television: Action or Reaction?" in *Children's Understanding of Television: Research on Attention and Comprehension*, eds. J. Bryant and D. R. Anderson, New York, N.Y.: Academic Press.

5. Anderson, Daniel R. and Robin Smith (1984), "Young Children's TV Viewing: The Problem of Cognitive Continuity," in *Applied Developmental Psychology* eds. F. J. Morrison, C. Lord, and D. P. Keating, (1), 116-165.

6. Anderson, Daniel R., Linda F. Alwitt, Elizabeth P. Lorch and Stephen R. Levin (1979), "Watching Children Watch Television," in *Attention and Cognitive Development*, eds., G. A. Hale and M. Lewis, New York, NY: Plenum.

7. Bjorklund, Gail and Richard Bjorklund (1979), "An Exploratory Study of Toddlers' Satisfaction With Their Toy Environments," in Advances in Consumer Research, ed. W. L. Wilkie, VI, Ann Arbor, MI: Association for Consumer Research, 400-406.

8. Blatt, Joan, Lyle Spencer, and Scott Ward (1972), "A Cognitive Developmental Study of Children's Reactions to Television Advertising," in Television and Social Behavior, eds., E. A. Rubinstein, G. A. Comstock, and J. P. Murray, Washington, D.C.: U.S. Government Printing Office, 452-68.

9. Brown, Ann L. (1972), "Context and Recency Cues in the Recognition Memory of Children," American Journal of Mental Deficiency, 77, 54-58.

10. Brown, Ann L. (1973), "Judgments of Recency for Long Sequences of Pictures: The Absence of a Development Trend," Journal of Experimental Child Psychology 15, 473-480.

11. Brown, Ann L. (1975), "Recognition, Reconstruction, and Recall of Narrative Sequences by Preoperational Children," Child Development, 46, 156-66.

12. Chestnut, Robert W. "Television Advertising and Young Children: Piaget Reconsidered." Current Issues and Research in Advertising, eds. J. H. Leigh and C. R. Martin Jr. Ann Arbor, Michigan: Division of Research, The University of Michigan (1979): 5-15.

13. Child Research Services (1986), "Overview of C.R.S. Focus Group Techniques."

14. Cutler, Fred (1978), "To Meet Criticisms of TV Ads, Researchers Find New Ways to Measure Children's Attitudes, "Marketing News," Jan. 27, 1978, 16-17.

15. Donohue, Thomas R., Lucy L. Henke, and William A. Donohue (1980), "Do Kids Know What TV Commercials Intend?" Journal of Advertising Research, 20 (5), 51-56.

16. Donohue, Thomas R., Meyer, Timothy P. and Henke, Lucy L. (1978), "Black and White Children: Perceptions of TV Commercials," Journal of Marketing Vol. 42 (October), 34-40.

17. Gelman, Rochel (1978), "Cognitive Development," Annual Review of Psychology, 29, 297-332.

18. Goldberg, Marvin E. and Gerald J. Gorn (1974), "Children's Reaction to Television Advertising: An Experimental Approach," Journal of Consumer Research, 1, 69-75.

19. Gorn, Gerald J. and Marvin E. Goldberg (1977), "The Impact of Television Advertising on Children from Low Income Families," Journal of Consumer Research, 4, 86-88.

20. Macklin, M. Carole (1983), "Do Children Understand TV Ads?," Journal of Advertising Research, 23 (1), 63-69.

21. Macklin, M. Carole (1985), "Do Young Children Understand the Selling Intent of Commercials?," Journal of Consumer Affairs, 19 (Winter), 293-304.

22. McCollum Spielman (1982), "Now Kids Are Us!," Topline 3 (4).

23. Novick, Robert (1984), "Issues in Measuring Children's Responses to Satisfaction," presented at the Association for Consumer Research, Washington, D.C., October 13, 1984.

24. Piaget, Jean (1926), The Language and Thought of the Child, New York, NY: Harcourt Brace.

25. Pratt, Michael W., Sylvia Scribner and Michael Cole (1977), "Children as Teachers: Developmental Studies of Instructional Communication," Child Development, 48, 1475-1481.

26. Ratner, Ellis M. (1978), FTC Staff Report on Television Advertising to Children, Washington, D.C.: Federal Trade Commission.

27. Robertson, Thomas S. and John R. Rossiter (1974), "Children and Commercial Persuasion: An Attribution Theory Analysis," Journal of Consumer Research, 1 (1), 13-20.

28. Shatz, Marilyn (1983), "Communication," in Handbook of Child Psychology, ed. P. H. Mussen, III, 4th edition, New York, NY: Wiley.

29. Shatz, Marilyn and Rochel Gelman (1973), "The Development of Communication Skills," Monographs of the Society for Research in Child Development, 38 (5, Serial No. 152).

30. Ward, Scott and Daniel B. Wackman (1972), "Children's Purchase Influence Attempts and Parental Yielding," Journal of Marketing Research, 9 (August), 316-319.

31. Ward, Scott and Daniel B. Wackman (1973), "Childrer's Information Processing of Television Advertising," in New Models for Mass Communication Research, Sage Annual Reviews of Communication Research. Vol. II, eds. F. G. Kline and P. Clark, 119-146.

32. Ward, Scott, Greg Reale, and David Levinson (1972), "Children's Perceptions, Explanations, and Judgments of Television Advertising: A Further Exploration," in Television and Social Behavior, eds., E. A. Rubinstein, G. A. Comstock, and J. P. Murray, Washington, D.C.: U.S. Government Printing Office, 468-490.

33. Ward, Scott, Daniel B. Wackman, and Ellen Wartella. How Children Learn to Buy. Beverly Hills, California: Sage Publications, Inc., 1977.

34. Wartella, Ellen (1980), "Individual Differences in Children's Responses to Television Advertising," in Children and the Faces of Television, eds. E. L. Palmer and A. Dorr, New

York, NY: Academic Press 307-22.

35. Whitehurst, Grover J. and Susan Sonnenschein (1981), "The Development of Informative Messages in Referential Communication: Knowing When vs. Knowing How," in Children's Oral Communication Skills, ed., W. P. Dickson, New York, NY: Academic Press.

36. Willems, Edwin P. and James L. Alexander (1982), "The Naturalistic Perspective in Research," Handbook of Developmental Psychology, ed., B.B. Wolman, Englewood Cliffs, NJ: Prentice-Hall, Inc., 116-133.

37. Yarrow, M. R. (1960), "The Measurement of Children's Attitudes and Values," in Handbook of Research Methods in Child Development, ed. P. H. Mussen, New York, NY: Wiley.

GUIDELINES FOR CONSUMER EDUCATION: A CONCEPTUAL BASE FOR THE ILLINOIS CONSUMER EDUCATION PROFICIENCY EXAM

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ABSTRACT

This paper describes the way in which the Guidelines (Consumer Education in Illinois Schools 1986) are being used in the development of the Illinois Consumer Education Proficiency Exam.

THE PROFICIENCY MANDATE

In 1985, the Illinois Legislature passed SB 730 containing a provision requiring the State Board of Education to develop and provide to local districts a Consumer Education Proficiency Exam. The exam is to be ready by the beginning of the 1986-87 school year. Students in grades 9-12 are eligible to take the exam and students who pass the test are not required to take a course in Consumer Education. The test will be given once a year on a date selected by the State Board.

THE DEVELOPMENT PROCESS

Organization

Responsibility for test development was given to the Program Evaluation and Assessment division of the Illinois State Board of Education. It was decided that one of the steps necessary to the development of the Request for Proposal (RFP) for the Illinois Consumer Education Proficiency Test was the development of a set of objectives for consumer education. The content outlined in the Guidelines was determined to provide a basis for identifying proficient consumer knowledge and skills. A committee was formed to develop consumer education objectives from the Guidelines.

Consumer Education Committee

The Consumer Eucation Committee is comprised of 27 members representing teachers of consumer education from various disciplines, school district superintendents, higher education, school boards, and the State Board. The Committee's responsibilities include: development of a set of proposed objectives in consumer education, reviewing of test items prior to pilot testing, reviewing the results of the pilot test, and reviewing the final test instrument.

Development of the Objectives

The Committee first met for two days in November at which time members were informed of the process which was to be followed for test development and implementation. The majority of the time at that meeting was devoted to the development of objectives to be used in testing on topics from the Guidelines. The fifteen topics included in the Guidelines were divided into four functional areas (overview of consumer roles, personal finance, purchasing goods, and purchasing services) and the Committee was broken into subcommittees assigned to specific topics. Subcommittees wrote objectives for the areas they were assigned, being concerned with the objectives' adequacy in covering the material included in the Guidelines and the depth of understanding reflected by the objectives. Subcommittees then presented their work to the entire Committee for review and revision. The total set of preliminary objectives developed in the initial meeting were then revised for consistency of writing style. At the first meeting, the Committee also established a rank order for the fifteen topics included in the Guidelines from most important to least important. At the committee's second meeting (December 2), the objectives were further revised and they were keyed to link specific objectives with the content outline from the Guidelines. In addition, Objectives within the various topic areas were priority ranked.

The Contract

In January the RFP, including copies of the Guidelines and the revised objectives for consumer education, was disseminated. In February, the contract was awarded to the successful bidder (a testing company), and work was begun on the test. A series of meetings has been scheduled with the testing company, the Committee, and the State Board to continue work on the test.

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HISTORY OF THE ILLINOIS CONSUMER GUIDELINES

Ann Pictor, Illinois State Board of Education

On August 11, 1967, the bill requiring Consumer Education in Illinois schools became law. According to the Law, "Pupils in the public schools in grades 8 through 12 shall be taught and be required to study courses which include instruction in consumer education, including but not necessarily limited to installment purchasing, budgeting and comparison of prices." The Superintendent of Public Instruction was identified to devise or approve the consumer education curriculum for grades 10 through 12 and to specify the minimum amount of instruction. The sum of $35,000 was appropriated to the Superintendent to carry out the provisions of the Act.

"The Guidelines for Consumer Education" were published in 1968. Consumer Education was defined in this first publication as "the development of the individual in the skills, concepts, and understandings required for everyday living to achieve, within the framework of his or her own values maximum utilization of and satisfaction from his or her resources." The following twelve consumer education topics were identified:

General Principles of Consumer Purchasing
Budgeting or Managing Money
Using Consumer Credit Wisely
Buying Goods
Buying Services
Purchasing and Maintaining Automotive Products and Services
Using Leisure Time, Money and Energy
Renting or Owning a Home
Making Use of Insurance
Savings and Investments
Consumer Taxes
Consumer Rights and Responsibilities

Three methods for implementation were indicated.

First, schools could identify several courses which would meet the consumer education requirement and require all students take one of the courses. Some of the possible course titles were listed as "General Business (Introduction to Business, Basic Business), Consumer Problems (Consumer Economics), Home and Family Living (Home Management) Economics."

Second, schools could develop a specific course devoted to consumer education and require that all students take the course.

Third, schools could integrate consumer education into all (or selected) subject areas. The Superintendent of Public Instruction specified that a minimum of three weeks or fifteen class periods be devoted to each of the following topics: installment purchasing, budgeting and camparisons of prices.

The Guidelines were revised and updated in 1972, 1978, and 1986. The law was amended in 1975, 1978, 1979, and 1985. The present law follows:

> Sec. 27-12.1. Consumer education. (a) Subject to the provisions of subsection (b) of this Section, pupils in the public schools in grades 9 through 12 shall be taught and be required to study courses which include instruction in the area of consumer education, including but not necessarily limited to installment purchasing, budgeting, comparison of prices and an understanding of the roles of consumers interacting with agriculture, business, labor unions and government in formulating and achieving the goals of the mixed free enterprise system. The State Board of Education shall devise or approve the consumer education curriculum for grades 9 through 12 and specify the minimum amount of instruction to be devoted thereto.
>
> (b) Prior to the commencement of the 1986-1987 school year and prior to the commencement of each school year thereafter, the State Board of Education shall devise, develop and furnish to each school district within the State a uniform Annual Consumer Education Proficiency Test to be administered by each school district to those pupils of the district in grades 9 through 12 who elect to take the same, provided that no pupil shall be permitted to take the test more than once in any school year. Each year the State Board of Education shall administer the test devised and developed for that school year, together with the uniform standards which all districts shall apply in scoring that test. The test shall be devised and developed by the State Board of Education each year in a standardized manner to allow any pupil who takes the same and who achieves a score thereon which is not less than the minimum score established by the State Board of Education for the test so taken to thereby demonstrate sufficient proficiency in the area of consumer education as shall excuse such pupil from the necessity of receiving, as a prerequisite to graduation from high school and receipt of a high school diploma, the minimum amount of instruction in a consumer education curriculum otherwise required by subsection (a) and the rules or regulations promulgated thereunder.

The 1986 publication is entitled "Consumer Education in Illinois Schools 1986." The topics remain basically the same as in the original 1968 Guidelines but with four main headings: The Consumer in The Market Place, The Consumer in Our Economy, Financial Planning, and Goods and Services.

PKU/5851k

PROCEDURES FOR REVISION OF "CONSUMER EDUCATION IN ILLINOIS SCHOOLS 1986"

Mary E. Pritchard, Northern Illinois University[1]

In February, 1985, Ann Pictor, Educational Consultant with the Illinois State Board of Education, asked the Executive Board of the Illinois Consumer Education Association about the advisability of revising the Illinois consumer education guidelines. The 1978 version entitled, "Consumer Education in Illinois Schools: Grades 8-12," was out of print and needed to be updated. The ICEA Board supported the need for the revision and suggested names of individuals to help with the project.

The publication revision committee included high school and university consumer educators from the three disciplines responsible for consumer education courses in Illinois: Business, Home Economics, and Social Studies. Secondary teachers represented both large and small school districts.

The full publication revision committee met twice. The first meeting provided an opportunity for the committee to establish the procedures and agree upon format and terminology. The publication would be divided into three sections: introduction, subject chapters, and consumer education resources. The general introduction would include a discussion of the Illinois Consumer Education mandate, a rational for consumer education, and consumer education curriculum objectives. The introduction would be followed by chapters for major consumer education subject areas. The 1978 version of the publication had included an extensive list of general resources and addresses. The list had become outdated over the years and was costly to reproduce. It was decided to replace this section with an abridged list of consumer education resources deemed by committee members to be of particular assistance to the beginning teacher of consumer education.

The committee decided that each chapter would be examined and revised and that the general format for each chapter would be similar to the format used in the 1978 document. Each subject chapter would contain the following sections: Introductory Statement, Objectives, Outline of Content, Suggested Activities, and Resources.

Many of the introductory statements had proven timeless, however others required revision. The objectives were examined and a uniform format was determined. All objectives would have the stem: "After studying this unit, students should be able to:" followed by an appropriate verb.

The committee agreed that the Objectives and the Outline of Content would be as comprehensive as possible and identify potential objectives and topics from which teachers could choose. The committee did not intend for any teacher to use the chapters in their entirety, but rather as a sourcebook for developing curricula.

The Outline of Content was presented in an outline format similar to that of the 1978 version. The subject areas were organized in a logical sequence and in a format for easy reference. The final version was typeset, which allowed for two columns on a page and a more compact and easy-to-read document. The sequence of objectives and content were syncronized for ease of use.

Each chapter also included an extensive list of suggested classroom activities. The activities were modified from the 1978 version or developed by the author of each section.

The Resource section of each chapter received the most extensive revision. Almost all of the resources included in the last version were obsolete. The committee felt that an accurant resource section was critical to the credibility of the document. Each committee member wrote to publishers to confirm the current name and address and the availability of resource materials. Resources were annotated and included print materials, audiovisual materials, computer programs, and simulations, each identified by appropriate symbols. Another major decision was to exclude high school textbooks from the list. College textbooks of particular relevance were included.

Each committee member accepted responsibility for one or more chapters and agreed to prepare a revised version for the next meeting. The committee reconvened and each member presented the revised chapters which were discussed, analyzed, revised, and accepted by the committee.

"Consumer Education in Illinois 1986" was released at the annual conference of the Illinois Consumer Education Association in February, 1986, one year from the beginning of the revision process. The committee hoped that teachers would become familiar with the contents of the document rather than take it home and "file" it to gather dust. To accomplish this end, members of the revision committee led sessions at the ICEA conference. Attendance at the sessions was excellent and many teachers attended several of the sessions to receive information from different authors.

"Consumer Education in Illinois Schools 1986" is a reality and is available to Illinois teachers through the Illinois State Board of Education. The publication has also been submitted to the ERIC system to make it available for use in other states.

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[1] Assistant Professor, Family Economics

CABLE TV: EMERGING CONSUMER ISSUES

By Lee Richardson and Martin Lazar, Univ. of Baltimore*

ABSTRACT

Cable television is a rapidly growing industry soon to be the focal point of consumer controversy. Deregulation of the local franchised cable companies creates the untenable circumstance of unregulated monopoly. Price increases and reductions in quality and service appear inevitable following federally mandated removal of local government rate regulation in 1987. Consumer organizations have failed to deal with the issues to date, but cable's competitive successes over other media delivery systems promise increased attention from them in issues of process and substance. Vulnerable groups who can no longer afford cable may lose access to valuable information sources.

INTRODUCTION TO CABLE TV

Cable television's unique characteristics and rapidly growing popularity promise to make television a subject of serious attention from consumer advocates. Broadcasting has not been a consumer economic issue simply because the waves are free and no direct user fees are assessed.[1]

The number of options now available for viewing television is enormous. Innovations in the profitable use of the electromagnetic waves have led to significant changes in the way that it affects our daily lives.

The A.C. Nielsen Company, best known for its television ratings services, has noted that cable television households now watch an average of almost 58 hours of television per week, as compared to non-cable tv households viewing an average of 45 hours and 22 minutes. Cable households thus show an increase of about 30 percent for overall television viewing but the three networks and the independent stations worry as they are losing share of market to specialized cable programmers.[2]

The additional effects of cable on already complex television viewing habits is an emerging area of behavioral study. Many cable channels are experimenting with new formats in programming and advertising that promise to change audience behaviors[3] and speed up innovation in broadcasting as well.

A notable behavior called "channel-hopping," has been enhanced in recent years by the use of hand-held infrared remote control channel changers. Viewers, especially children, tend to move between channels quickly, absorbing only parts of programs. This tends to shorten attention spans, which is particularly of concern to educators. The numbers of cable channels tends to encourage more of this type of scanning in cable homes.[4]

Advertisers are getting nervous because of "ad-zapping," which has also increased with the use of the quick change remote controllers, and by the deletion of their advertisements when viewers use videocassette recorders to copy programs for viewing at more convenient times, called "time-shifting."[5]

Cable's beginnings were humble by comparison to the size and scope of today's industry. Mahony City, Pennsylvania's nearby mountainous terrain blocked reception from Philadelphia. There was no ABC, no NBC, no CBS. There were no sales of television sets, either, until an enterprising appliance dealer named John Watson put up an antenna on a nearby mountain and ran a cable down to the town. Once reception was available, tv sets sold, Watson made some money and cable television was born. The technology was very simple.

By the early 1950's, there were 70 such tiny systems with a total of 14,000 subscribers. These early cable systems, usually called community antenna television systems (CATV), were built where the mountains, valleys,[7] or the distance prevented adequate reception.

Most of these early systems were capable of up to 12 channels, which could be neatly converted into channel numbers 2-13 available on VHF tuners.

In the early 1960's even urban areas such as Manhattan began to intall cable systems to exorcise the video ghosts and shadows caused by signals bouncing back and forth between skyscrapers. By then, technology had made possible systems of 20 channels.

CABLE TECHNOLOGY

Although the number of channels and programming services has continued to increase, the basic design of the cable systems have remained about the same since the 1950's.

(SEE EXHIBIT 1)

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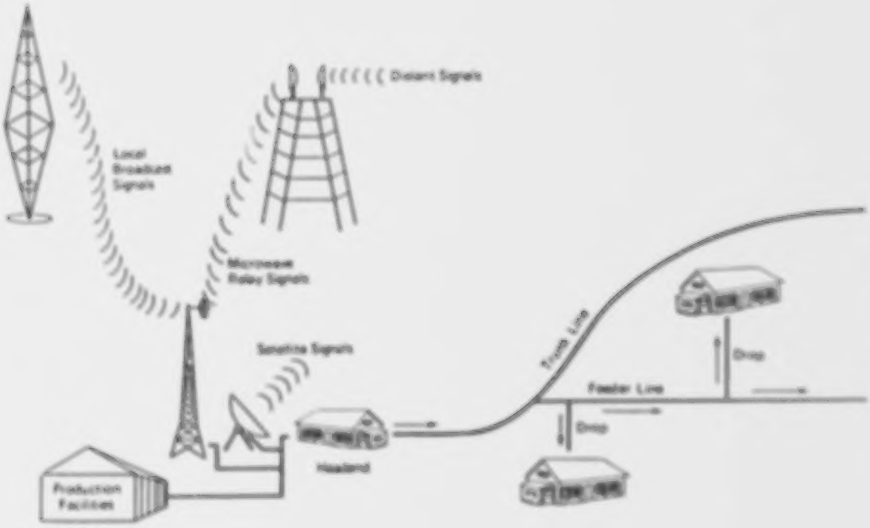
*Respectively, Professor and Assistant Professor, Department of Marketing, Robert G. Merrick School of Business.

EXHIBIT I.

A TYPICAL CABLE COMMUNICATIONS SYSTEM


Distant Signals
Local Broadcast Signals
Microwave Relay Signals
Satellite Signals
Trunk Line
Feeder Line
Drop
Drop
Headend
Production Facilities

Source:

Marvin Smith, Radio, TV & Cable: A Telecommunications Approach. New York: Holt, Rinehart and Winston, 1985, p. 131.

Most programming for cable systems consists of rebroadcast local station material; programs from distant television stations such as WTBS or WOR or WGN, (the so-called "superstations"); programs provided by cable programming services such as HBO, the Weather Channel, ESPN, and Cable News Network; and locally produced material from colleges, city and county governments, and from the cable system operator.

The signals of local stations are received by antennas, the distant stations and cable programming services are generally received by microwave towers or satellite dishes, and the locally produced material is generally delivered by cable. All signals are amplified and typically converted to different channels in a building called the "headend."

From the "headend" the signals are distributed to viewers via one or more coaxial cable "trunk" lines, strung along the utility poles, or buried underground, (a more expensive option); "feeder" lines which branch off the trunk lines to groups of subscribers; and finally, "drop" cables which bring the signal into the subscriber's house.

The cable coming to the subscriber is attached to a "converter" box through which the viewer chooses which channel to watch. The "converter" box then delivers the signal to the television set. Most systems built before the late 1970's have the capability of 35 channels (2-36); those built between the late 70's and early 80's have the ability to receive 60 channels (but might only program 35); those built since 1982 have the ability to choose 120 channels, many of which go unprogrammed. Individual cable systems may vary significantly in their choices of technology and capacity depending on local conditions and their own preferences.

GROWTH OF CABLE PROGRAMMING

In the beginning, the relationships between the regular television station owners and the cable systems owners was quite cordial. The broadcasters were pleased because cable increased the number of viewers and the market size, which usually meant more advertising dollars to the broadcasters.

The cable system operators were happy because they were snapping programming signals off-the-air free of charge, which provided them a very low programming cost and a nice profit.

The relationship began to deteriorate when the cable operators started to "import" television signals from other cities and markets, utilizing microwave relays or satellite dishes.

The local broadcasters nearly panicked, fearing economic ruin caused by a tremendous drop in ratings, and complained to the Federal Communications Commission. The FCC, which had originally allocated the broadcast spectrum to encourage the development of local television, set in motion constraints that tightly regulated the cable industry from 1962 to about 1977.[8]

In 1972, TIME, Inc., launched Home Box Office (HBO), the first pay-television network, whose steady diet of movies, sports, specials and continued high revenues have contributed to the tremendous growth of cable.[9]

But the real growth of cable programming began in 1975, when RCA launched the first satellite for domestic communications use. The sky has become crowded with similar satellites whose increased capabilities have allowed for programming channels dedicated to children, news, weather, sports, health, sex, movies, and evangelists. HBO was the first pay-television network on satellite.[10]

(SEE TABLE I)

GROWTH OF CABLE SYSTEMS

The tremendous growth of the industry, usually measured in terms of the percentage of penetration of cable service into homes with televisions (variously called HUT, or Homes Using Television, and TVHH for Television Households) shows a 47 percent penetration in 1985.

(SEE TABLE II)

Another growth indicator is the amount of advertising dollars earned by the systems each year.

(SEE TABLE III)

PUBLIC POLICY AND THE CABLE SYSTEM OWNERS

In the early 1980's, the rapidly growing industry experienced a number of problems. Among them were:

1. Frenetic and costly competition among cable systems for local franchises. Local governments usually sought one company by competitive bidding.

2. Regulation by local government which retained authority over companies' rates for basic packages of services and channels.

3. Continuing federal rules which forced cable systems to carry local broadcasters ("Must Carry" rules) and to pay royalties on certain distant broadcast signals.

TABLE 1.

TOP 30 CABLE PROGRAMMERS RANKED BY NUMBER OF SUBSCRIBERS (millions)

Service	Program	Systems	Subs (mm)	Cat.*
1. WTBS	Independent	5,300	25.8	Ads
2. ESPN	Sports	5,730	25.0	Ads
3. CBN	Religion/family	3,560	20.3	Ads
4. CNN	News/features	3,440	19.2	Ads
5. USA	Sports, entnmnt	3,300	17.5	Ads
6. C-SPAN	Hse of Rep/Politics	1,200	13.5	Ads
7. MTV	Music Video	1,500	12.0	Ads
8. HBO	Movies/Specials	4,500	11.5	Pay
9. Nickelodeon	Young People	2,450	11.4	Basic
10.Cable Health Net	Health	1,055	10.7	Ads
11. WGN	Independent	4,170	10.1	Basic
12. ARTS	Cultural	1,625	9.5	Ads
13. Daytime	Women's Progrmg	670	9.5	Ads
14. Modern Sat Net	Variety	470	8.5	Ads
15. Weather Channel	Weather	870	8.3	Ads
16. PTL	Religious prgm.	750	7.5	Free
17. Nashville	Country Music	750	7.4	Ads
18. FNN	Financial	450	6.5	Ads
19. Satellite News	News/Specials	700	6.0	Ads
20. Satellite Pgm	Variety	375	5.7	Ads
21. WOR	Independent	800	4.7	Basic
22. SHOWTIME	Movies/Specials	2,400	4.2	Pay
23. BET	Black entertainment	190	3.8	Ads
24. CNN-2	News Headlines/lcl	510	3.8	Ads
25. ACSN	Education/Community	370	3.2	Basic
26. Trinity	Religious programs	250	2.9	Free
27. Natl Jewish TV	Jewish programs	130	2.5	Ads
28. TMC	All movies	2,350	2.4	Pay
29. CINEMAX	All movies	1,600	2.0	Pay
30. NCN	Religious programs	100	1.4	Free

Data from National Cable Television Association, Satellite Services Report, June 1983.

*Categories:

Basic: small fee to cable operator, usually none to subscriber
Free : no charge to operator or subscriber
Ads : basic or free service which accepts national cable ads
Pay : fee to operator, subscriber pays additional fee

TABLE II.

BASIC/PAY CABLE SUBSCRIBER GROWTH

Year	Basic Subs.	Percent of TVHHs	Pay Subs.	Percent of TVHHs
1976	12,094,000	17	565,000	1
1977	13,194,000	18	1,466,000	2
1978	14,155,000	19	2,980,000	4
1979	16,023,000	21	5,341,000	7
1980	18,672,000	24	7,780,000	10
1981	22,596,000	28	11,804,000	14
1982	26,016,000	32	14,634,000	18
1983	30,636,000	37	18,216,000	22
1984	35,448,000	42	21,944,000	26
1985	40,467,000	47	25,830,000	30
1986	45,656,000	52	29,852,000	34
1987	49,280,000	55	33,152,000	37
1988	52,098,000	57	36,560,000	40
1989	54,988,000	59	40,076,000	43
1990	58,900,000	62	43,700,000	46

TVHHs = Television households
Pay subscribers = Basic subscribers also subscribing to
one or more pay cable services.

Source: [illegible] Cable Information Service

TABLE III.

CABLE ADVERTISING REVENUE GROWTH ESTIMATES
(Millions of Dollars)

Year	Cable Network	National/ Local Spot	Total
1980	50.0	8.0	58.0
1981	104.9	16.7	121.7
1982	195.0	31.8	226.8
1983	303.0	50.4	353.4
1984	434.0	80.0	514.0
1985	597.0	128.0	725.0
1986	790.0	205.0	995.0
1987	1,045.0	308.0	1,363.0
1988	1,347.0	431.0	1,778.0
1989	1,678.0	560.0	2,238.0
1990	2,093.0	672.0	2,765.0
1991	2,543.0	806.0	3,349.0
1992	3,078.0	967.0	4,045.0
1993	3,712.0	1,160.0	4,872.0
1994	4,380.0	1,334.0	5,714.0

Source: Cable TV Advertising (newsletter), March 22, 1984.
Copyright Paul Kagan Associates, Inc.

4. A slowdown in sales of lucrative pay television channels locally. Pay cable (or pay-televison) revenues are divided between local systems which collect it from their customers and the satellite pay cable programmer by contracted arrangements.

5. Failure of cable advertising to increase rapidly enough.[11]

6. The rise of satellite dishes as competitors to both programmers and local cable systems. So-called backyard dishes receive signals from satellites without usually paying for them at all.

The issues facing the industry have determined the public policy issues addressed so far in the 1980's. Both federal legislation and regulation have been promulgated to ease the industry's difficulties. While the financial and competitive problems should have been acknowledged, new public policy changes have not addressed consumer interests directly.

COMPETITION AND THE CONSUMER INTEREST

The assumption to date largely has been that the cable TV consumer can influence the industry through the market place. If pay TV is not worthwhile, consumers will not pay. At an average of approximately $25 per month revenue (for basic service and one pay channel such as HBO or the Disney Channel) per customer, price increases or a deterioration in variety and quality will probably meet resistance and affect subscriber decisions.[12]

One underlying assumption in the market-as-regulator theory is that video is available in sufficiently varied forms to offer reasonably competitive alternatives. A second assumption is that cable TV is a non-essential service -- a form of entertainment. The third assumption is that economies of scale do not exist to the extent that only one competitor will serve as a natural monopoly.

The desire to "prove" these three free market conditions is understandable, but doomed to frustration. Competition that can match the variety and quality of services at comparable prices to local cable does not exist except within the cable industry itself.

The cable industry has developed so far in defiance of the hope of some that competition from within the industry will even be permitted -- the local franchising process continues to exclude competition _de facto_ even though some argue that the law permits or requires it.[13]

The assumption that cable TV is a non-essential is a social judgement beyond the reach of any single analyst. The vast extent of television audiences argues at a minimum that video is a major institution in the society. Much like telephone, one can exist and function without physical discomfort or severe personal risk in the absence of television, but then telephone is generally regarded as an essential service. The extent to which society relies upon television to inform the public through news programs and other information may be enhanced by cable.

Cable may also become a means of communicating on a two-way basis, or of providing the facilities for essential services such as fire and burglar alarms. The argument over the essential nature of cable will shift as cable itself changes its content and form.

The economies of scale in cable are not well documented. Their existence appears based on the apparent wasteful nature of duplicate cable distribution systems laid throughout a community. Indeed, duplication would decrease the ratio of customers to investments in facilities for head-to-head competitors to some degree.

This in turn would be offset by increases in the total market size over that of a single non-competitive monopolist. Competition would presumably increase the efficiency of a possibly lethargic monopolist and increase overall consumer satisfaction. There are not sufficient tests of competition in the marketplace to draw convincing conclusions about these issues.[14]

Other authorities stress that regardless of the possible benefits of competition in some cases, that natural monopolies will occur where economies of scale are significantly attractive for competitors to try to eliminate each other. Such unstable competition was in fact first observed by John Stuart Mill.[15]

The need for careful evaluation of the natural monopoly facts in local cable systems is evident to help ascertain whether a change in the _de facto_ exclusive local franchise system is worthwhile. The recent passage of cable reform legislation which did not accomplish the elimination of _de facto_ monopoly makes it necessary to address problems in the industry for the next decade or more in terms of the need to develop public policies for locally franchised monopolies rather than for competitors.

Unfortunately, Congress chose to deregulate many important aspects of cable television including pricing -- as well as the quality, variety, and content of basic cable service. Local government's role is to be drastically diminished by federal mandate.[16]

The full extent of price deregulation under t law is effective in 1987. That year may prove to be non-eventful as the industry tests new pricing ideas carefully and avoids political backlash. At some point, and if pessimists are correct in assessing the market as a deregulated monopoly situation, textbook monopoly pricing may occur in many communities by 1990.[17]

In any event the law is an unreasonable public policy that unleashes monopoly pricing. Politically astute or robber baron in their implementation, such price increases are not defensible given the existing franchise system, the lack of competition, and the restraints on regulation embodied in the 1984 Cable Franchise Policy and Communications Act.

OTHER CONSUMER ISSUES

Last minute intervention in the passage of the 1984 law mandated citizen participation in the franchise renewal process. The law itself curtails much of the leverage that local governments would have had in the renewal process, but the Consumer Federation of America (CFA), for example, considers public participation to be a key consumer provision in the diminished regulatory environment.

CFA, the nation's largest consumer organization, as well as other consumer groups, also influenced minor provisions concerning privacy and equal employment opportunity. Consumer groups essentially conceded the most serious consumer related provision - price deregulation - by ignoring it.[18]

Routine consumer protection laws, regulations and processes that apply to consumer products and service industries have not been altered in significant ways by legislation and regulation specific to the cable industry. Thus advertising, sales practices, and customer dealings with cable companies are essentially within the jurisdiction of local and state consumer protection agencies. Cable system problems with individual customers, such as home installation, utility right-of-way across individual properties, and customer theft-of-service do not appear to be especially difficult policy issues.[19]

SUMMARY AND RECOMMENDATIONS

A review of the structure and evolution of the cable industry identifies a number of issues and trends of relevance to consumers. Within the past two years, federal deregulation has created difficult market conditions for enhancement of the consumer interest. While a franchised monopoly in practice, the industry is due for price deregulation by 1987. Notwithstanding certain provisions addressing consumer problems with the industry, these appear insignificant compared to the fully deregulated monopoly conditions of 1987 and beyond.

Footnotes:

[1] Taxpayers in many nations subsidize television, i.e., television set owners are assessed in order to fund the British broadcasting system. The U.S. relies heavily upon advertiser support primarily for both commercial radio and television, and public broadcasting receives partial taxpayer support.

[2] Sally Bedell Smith, "New TV Technologies Alter Viewing Habits," *New York Times*, October 9, 1985.

[3] MTV (Music Television) pioneered the music video now found also in broadcast programming and which has been given general credit for significant boosts in sales of music records and cassettes from 1982 to 1984. The 24 hour Weather Channel encourages very brief viewing patterns for persons seeking some particular weather forecast or information. The 24 hourCable News Network has challenged abbreviated network news formats. C-SPAN broadcasts the U.S. House of Representatives live when it is in session.

[4] Smith, *Ibid*.

[5] Gary Levin, "Ads Can Survive 'Zapping'", *Advertising Age*, September 16, 1985.

[6] G. Kent Webb, *The Economics of Cable Television*. Lexington, MA: D.C. Heath & Co., 1983, p. 1.

[7] 70 Marvin Smith, *Radio, TV & Cable: A Tele- communications Approach*. New York: Holt, Rinehart and Winston, 1985, p. 131.

[8] Webb, *op. cit*., p. 4.

[9] Webb, *op. cit*.

[10] Webb, *op. cit*., p. 5.

[11] "A Marketing Lesson for Cable," *Electronic Media*, May 23, 1985, p. 12.

[12] Both authors are subscribers of Howard Cable, a subsidiary of Storer Cable.

[13] Clint Bolick, "Cable Television: An unnatural Monopoly," CATO Policy Analysis #34, CATO Institute, Washington, D. C., March 13, 1984. Bolick concedes that the battle for competition in cable has been a losing one so far, but that it is a case of government intervention through the cable franchising process rather than market conditions which have created monopolies. The authors hold that federal law and court decisions have not altered the basice franchise process to date.

[14] Tom Hazlett, "The Viewer is the Loser," *Reason*, July, 1982, asserts that Phoenix, Arizona, is an example of 25 such cities with "head-to-head competition," but offers no data concerning economic efficiency or economics of scale.

[15] John Stuart Mill, Principles of Political Economy. Quoted from George T. Brown, The Gas Light Company of Baltimore. (Baltimore: The Johns Hopkins Press, 1936), pp. 63-64.

[16] "Cable now comes as close as you can get to being an unregulated monopoly," quotation of an unidentified security analyst in the Wall Street Journal, November 28, 1984, in a letter to the editor of the New York Times from David Westfall dated December 4, 1984. Similarly, Eric Smuckler and Sidney W. Dean, Jr., "The Cable TV Law Hurts the Public," New York Times, November 14, 1984, argue that "this deregulatory law is a disaster" and "Because they are monopolies, cable systems should be treated as public utilities..."

[17] Such practice may include outright price increases, reductions in service, quality and variety, and using such power to avoid contracted franchise obligations.

[18] One of the authors is an office of CFA and participated in some of the activities cited.

[19] Theft-of-service is defined in a broad sense by the industry to include more than illegal wiring into the cable company's distribution system. Much of the the theft rhetoric is designed to convince innovative consumers to buy services from the cable companies. For example, electronic devices readily available and legally sold permit consumers to wire their homes themselves with a variety of signal converters, switches, and complementary equipment such as videocassette recorders without paying additional service fees to their local cable company.

CONSUMER SURVEYS: TWO SUGGESTED PROCEDURES

David B. Eastwood[1], Donald R. Ploch[2], and Greer Litton Fox[3], The University of Tennessee

Consumer researchers often are faced with the need to collect their own data. Two ways to streamline the process are outlined.

Random listings of potential respondents can be obtained with the assistance of computer programs which generate random numbers. If a telephone survey is needed, random listings of phone numbers can be generated.

One modification for phone numbers is the following. The number of phones per exchange can be determined and used to estimate percentages of useable listings entries per exchange. Random phone numbers can then be set to conform to these percentages. This is a variant of that used by Waksberg [3], and it reduces the proportion of calls to nonresidences.

A different methodology is needed for face-to-face interviews. City directories (e.g., [1]) have geographic listings of residents from which a sample can be drawn. The output of a random number generator can be tailored to the number of pages, columns per page, and lines per column.

The set of values used to identify an address may locate unusable entries, such as blanks, more than one line used for an address, or the listing could be undesirable (e.g., a business). Use only those addresses which are located exactly by the computer algorithm. This is more desirable than a decision to take the entry above or below such occurrences. The latter would lead to changing the probability of selecting addresses in favor of those just above or below the useable entries.

Advances in computer software are facilitating the coding of responses. One package permits the direct coding of responses via terminals. It is part of SAS and is called the full screen product (FSP) [2]. FSP runs on an IBM computer under MVS/TSO or VM/CMS using an IBM 327x or compatible display. FSP locates data entries as specific locations on the display. These locations are then related to a SAS data file. The cursor moves automatically from one data position to the next as the coder fills all of the data entries on the screen.

Display screens can be edited to conform to pages of questionnaires. Formats of the response locations can be set, thereby making it more difficult to record responses incorrectly (e.g., numeric vs. alphanumeric).

A single screen can have up to 64 variables. Questionnaires having more variables can be handled in two ways. Multiple screens can be associated with a data file or separate files can be created. We recommend the second alternative. Multiple screens for a single data set require a little more interaction on the part of a coder. With the second alternative a questionnaire is divided into data/screen sets. Each is coded separately. Every respondent is given an identification number. After all questionnaires have been coded into the files, they can be merged.

Another desirable coding feature is the ease of editing the data once it has been entered into a file. Since SAS data files are created automatically, the usual SAS procedures can be used. Mistakes can be corrected by returning to the data set via the data entry screen. The computer can locate the erroneous entries, and the coder can type in the correct values.

REFERENCES

1. City Directory Company of Knoxville. Knoxville City Directory 1985. (Knoxville, TN: City Directory Company of Knoxville, 1984).

2. Council, Kathryn A. The SAS/FSP User's Guide. (Cary, N.C.: SAS Institute, 1982).

3. Waksberg, Joseph. "Sampling Methods for Random Digit Dialing." Journal of the American Statistical Association 73 (1978): 40-46.

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[1] Associate Professor, Agricultural Economics and Rural Sociology.

[2] Professor, Sociology.

[3] Professor and Head, Child and Family Studies.

A JOURNAL FOR APPLIED CONSMER AFFAIRS: YOUR INPUT TO AN ACCI PROJECT

John R. Burton, University of Utah[1]
Monroe Friedman, Eastern Michigan University[2]

PURPOSE

The purpose of this roundtable was to obtain suggestions, comments, and other input from ACCI members concerning the audience, funding, physical format, journal title, editorial policy, budget, and journal content of a proposed applied journal for ACCI. This roundtable was chaired by the Chair of the *ad hoc* committee to study the feasibility of this journal and by the Chair of the Future Directions Committee of ACCI. Twenty four persons attended the roundtable.

AD HOC COMMITTEE MEMBERS

John Burton, Chair, University of Utah
Charlotte Baecher, Consumers Union
Hayden Green, Oak Park and River Forest High School
Robert Kroll, Rock Valley College
Jean Lown, Utah State University
Glen Mitchell, Virginia Tech
Charles Monsma, Eastern Michigan University
Nancy Rudd, Ohio State University (ex officio member)
Mel Zelenak, University of Missouri

ISSUES DISCUSSED

Audience

Should the new journal be aimed primarily at ACCI members or some combination of ACCI members and other groups?
Who are the other groups (may be included in ACCI membership)? Extension, public school teachers, community college teachers, consumer advocacy groups, business, government agencies, financial counsellors, journalists, consumer consultants, students in consumer science classes.
How does the committee decide who the perspective audience is?

Funding

Foundation support? If so, what foundations?
ACCI--bundling or unbundling of membership fees?
Subscription fee separate from membership?
Added membership fee?
Some combination of the above?

Physical Format

What should be the size in pages and physical dimensions?
Should the journal look, flashy or staid (e.g., *Psychology Today* or *American Economic Review* or somewhere in between? Where in between?)
Should the journal accept advertising? If so, what type?
How much graphics would be appropriate?

Frequency of Publication

How many issues each year?
Should each issue be a special topic and be printed at irregular intervals?
Should the printing times alternate with the *Journal of Consumer Affairs*?

Title of Journal

How should title be determined?
Should title reflect the audience or proposed content?
Should title reflect association with ACCI and/or the *Journal of Consumer Affairs*?

Editor

Who should choose the editor and/or editorial board?
What should be the criteria for editor selection?
What should be the length of tenure of the editor?

Journal Content

Is the journal to be refereed totally, partially, or should acceptance be based solely on the editor's perogative?
How should contributions be encouraged?
Who should be encouraged to contribute?
Will some or all journal issues be directed at a special topic?
Should journal content be determined by survey of ACCI members and/or some other marketing technique?
What departments should this journal include? Below is an exhaustive list that has been suggested:

1. applied research not appropriate to *JCA* (whatever that may be)
2. review of literature articles (invited?)
3. position papers (invited?)
4. pro-con papers on consumer issues (similar to what is published by the Direct Selling Association) (invited?)
5. consumer news (what would not be appropriate for the *Newsletter*, whatever that may be)
6. legislative reports with an analysis of implications for educators and policy makers
7. book reviews
8. selected extension reports and guidesheets
9. the application of research
10. educational methodology
11. description of education, extension, and other programs
12. evaluation of education, extension, and other programs
13. guest articles on current issues (e.g., James Miller III on the contribution of regulation to efficient government)

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14. editorials, letters to the editor
15. rebuttals of previous articles
16. abstracts of articles that appear in other journals (e.g., *Journal of Consumer Studies and Home Economics*)

How many and what type of departments should be included in the journal? Should this be consistent from one journal to the next?

Budget and Press

How many copies do we plan to have per issue?
How much will it cost per copy?
What are the economies of scale?
What are the other expenses and how much will they be?
Should there be page and/or submission charges?

MEASURING THE VALUES OF PRODUCT CHARACTERISTICS

Christine J. Hager, Stockton State College[1]

The following discussion is a summary of the research conducted on product characteristics for my doctoral dissertation (Hager, 1985). The main questions addressed by such research are:

1) What do households pay for various characteristics of the products they buy?

2) How can the implicit prices of these characteristics be estimated?

3) Do the implicit prices of these characteristics affect the amount of the characteristic purchased and used?

Theoretical Model

Hedonic models are often used to relate prices to quantities of characteristics (Rosen, 1974). The purposes of the hedonic approach are to analyze implicit markets for characteristics; and to identify the structure of the demand for the characteristics by including the implicit prices in the demand models. Hedonic models are estimated in two steps as follows:

Step One:

Prices are related to characteristics of each product bundle given the assumption that consumers select individual products based on the price of the product bundle and on the characteristics of the product bundle. The product bundle is indivisible and purchased once during the time period.

If markets are separated given the assumption that supplies differ across markets, prices of the products and of the characteristics differ across these markets (Palmquist, 1984).

If the price function is linear, the implicit prices of the characteristics can be estimated as the first derivatives of the function and are constants.

Step Two:

The total quantities of the characteristics contained in the bundle were related to the implicit prices estimated in the first stage, household income and other factors that affect tastes and preferences.

Extensions and Applications

There are several theoretical and econometric extensions of this reaserch, including analysis of the importance of the functional form of the price equation in the estimation of the implicit prices. The empirical applications of the hedonic approach are diverse. They include studies of housing, food, and other consumer products (textiles, lawn mowers, refrigerators, automobiles, and other appliances).

Hedonic research on housing has been conducted as a way to determine the cost of deterioration in air, water, or noise quality in neighborhoods. Other environmental and product liability issues involve compensation for risk and willingness to pay for safeguards. The method of determining comparable worth in pay disputes is a characteristics or hedonic approach. Other applications include products and services, such as health services or even child care, for which consumers are willing to pay for differences in quality. It will be a challenge for consumer economists and others to define these quality differences.

References

Hager, Christine J. Demand for Nutrient and Nonnutrient Components of Household Purchases of Red Meat, Poultry, and Fish Products Using a Hedonic Approach. Ph.D. dissertation, N.C. State University, Raleigh, 1985.

Palmquist, Raymond. "Estimating the Demand for Characteristics of Housing" Review of Economics and Statistics 66: 394-404.

Rosen, Sherwin. "Hedonic Prices and Implicit Markets: Product Differentiation in Pure Competition." Journal of Political Economy 82:34-55.

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THE CONSUMER EXPENDITURE SURVEY:
DATA MANAGEMENT AND ANALYSIS DECISIONS

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ABSTRACT

Microdata from the Consumer Expenditure Interview Survey are available. Decisions related to management and analysis of these data are discussed from the perspective of household economic analysis.

DATA MANAGEMENT

The Consumer Expenditure Interview Survey (CES) provides an important source of data for analyzing economic behavior of households. Conducting household-level, instead of aggregate, analysis of the data presents special concerns and questions. This discussion explores aspects of data management and data analysis that are unique to analysis of the household data.

Data on the CES user tapes are organized by quarter. Each quarter of data is contained in four files: family, member, expenditure, and income files. For example, the first year of data were arranged as shown below.

```
FMLY.Q801   FMLY.Q802   FMLY.Q803   FMLY.Q804
MEMB.Q801   MEMB.Q802   MEMB.Q803   MEMB.Q804
MTAB.Q801   MTAB.Q802   MTAB.Q803   MTAB.Q804
ITAB.Q801   ITAB.Q802   ITAB.Q803   ITAB.Q804
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Q801 refers to Quarter 1 of 1980. The 1980-81 tapes contain Quarters 80-1 to 82-1. The 1982-83 tapes contain Quarters 82-2 to 84-1. MTAB refers to the expenditure files, and ITAB is the name for income files.

The family and member files are arranged by consumer unit (CU) and therefore are easy to access with statistical packages such as SPSS and SAS. The income file data are repeats of data on the family file (except divided to provide monthly values instead of annual values). The expenditure file requires more attention. Each record contains a consumer unit identification (CUID), expenditure code (UCC), dollar value, and month of expenditure. The records are ordered by CUID, but they are not ordered by UCC within the CUID. When using the SPSS aggregate procedure (Break=CUID UCC), the UCC must be ordered first. Otherwise, extracting the data from the tape produces a file with multiple records for a CUID for a single UCC (example: telephone).

There are no summary expenditure category variables (such as housing, transportation) on the tapes. To construct categories identical to those in the Bureau of Labor Statistics (BLS) published reports, the individual UCC codes must be assigned to an expenditure category and summed. The Label, Title, and Aggregate files on the 1980-81 tapes are designed for this purpose, but they are very tedious to use. BLS has corrected the problem; therefore, to assign the UCC codes on the 1980-81 tape, contact BLS (202-272-5060) for their listing of UCCs by categories. The 1982-83 documentation contains that information for the 1982-83 tapes.

DATA ANALYSIS DECISIONS

Annual Estimates From Quarterly Data

A primary question of household expenditure analysts using these data is, "How can annual expenditures be constructed for households from quarterly data?" This question arises because the CUIDs in each quarter of data are not the same from quarter to quarter.

The table illustrates the rotation schedule. Data from questionnaire 1 are not on the tape since they were used for bounding purposes only. In Quarter 1 of 1980, panels B, C, D, and E (which had the bounding questionnaires previously) were assigned to questionnaires 2, 3, 4, and 5. In Quarter 2, panel F was added and panel E was deleted. The rotation continues with each panel surveyed for the bounding and four quarters, then dropped. Each quarter has a total of about 4,800 consumer units.

Rotation Schedule for Consumer Expenditure Interview Survey, 1980-81

Questionnaire Number	1	2	3	4	5
1980 Quarter 1	A	B	C	D	E
Quarter 2	F	A	B	C	D
Quarter 3	G	F	A	B	C
Quarter 4	H	G	F	A	B
1981 Quarter 1	I	H	G	F	A
Quarter 2	J	I	H	G	F
Quarter 3	K	J	I	H	G
Quarter 4	L	K	J	I	H
1982 Quarter 1	M	L	K	J	I

There are several ways to estimate annual expenditures from quarterly data. Each has potential concerns. Possible treatments include:

(1) Use only CUs that have been in the survey four quarters. (There is a CUID variable that allows linkage over quarters if the CUID does not drop

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out for a quarter.) This reduces the sample size substantially. The outlined area on the table indicates the panels that would be included. Panels C, D, E, J, K, L, and M would be lost, reducing the sample size one third (from 36 to 24 sample component sets). This problem is more severe for shorter time periods. In 1980, only panel B is in the sample for four quarters. Data for panels A, C, D, E, F, G, and H would not be used. Population weights cannot be used since CES weights are designed to provide population estimates for each quarter. If the data from the box in the table are used, only three of the quarters will have appropriate weights (Quarter 4 of 1980, and Quarters 1 and 2 of 1981). Also, the researcher must determine whether family characteristics from Quarters 1, 2, 3, or 4 will be assigned to the CUs.

(2) Combine four quarters of data to make an annual file. Some CUs will be in the file as four separate CUs; some will be represented once, twice, or three times. Thus, four quarters of data will yield nearly 20,000 CUs, but many will be repeats of the same CU (with a different quarter of expenditures and perhaps some changes in family characteristics). In 1980 all but panels E and G (and dropout CUs) will be represented more than once. If there are unusual family characteristics or expenditures in a CU, multiple entries treated as different CUs may be undesirable.

(3) Analyze one quarter of data and annualize. Multiplying a quarter of data by four is not appropriate for seasonal expenses such as fuel costs or annual payments such as insurance premiums. A modification of this treatment is to impute missing quarters of data. On the basis of data for panel D's two quarters, impute the remaining two quarters. This also will be affected by seasonal differences and annual payments, however.

(4) Analyze each quarter of data and present results for four separate quarters.

Weighting

The translation of the sample to the U.S. urban population for each quarter is accomplished with Weight 21 from the family file of the data tape. CES weights adjust for region, housing tenure, race, and size of consumer unit in 1980-81. For example, the sample is underrepresented in the South, so the weights are used to create appropriate representation of the regions. Tests of statistical significance often are based on the weighted sample size. If the weighted number of cases exceeds the sample size, tests of significance are inflated. Since the CES Weight 21 weights to the U.S. population, statistical significance may be overstated. To correct for this, it may be useful to adjust the CES weight back down to the sample size.

Other Analysis Considerations

Because CES is a continuing survey, data may be used from quarters that are quite diverse in price levels. Adjustment in expenditure levels by the Consumer Price Index may be necessary. Also, with quarterly data, there are many CUs with zero values even for categories of expenditures such as clothing or health care. Tobit analysis may be better suited than ordinary least squares for dependent variables of this nature.

REFERENCES

1. U.S. Department of Labor, Bureau of Labor Statistics. Consumer Expenditure Survey: Interview Survey, 1980-81. Bulletin 2225. Government Printing Office, Washington, DC, 1985.

2. U.S. Department of Labor, Bureau of Labor Statistics. Consumer Expenditure Survey: Interview Survey, 1982-83. Bulletin 2246. Government Printing Office, Washington, DC, 1986.

DETERMINANTS OF ALLOCATION OF WOMEN'S TIME TO MARKET AND NONMARKET PRODUCTION IN MALAYSIA

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Introduction

Women in Malaysia, as in most other countries, generate income indirectly through household production but also directly through self-employment or employment in the labor market (42,48,11). By engaging intensely in both types of production women in developing countries frequently spend more hours per day in work than men (32,45,33,26).

This time use pattern enables women to contribute substantially to household income, particularly when returns to both types of production are taken into account (2,26,36,34, 1,47,14,28,15). It has been estimated that the average contribution of women to Malaysian households is approximately 38 percent (28). In the context of the relatively low levels of living prevalent in developing countries, women's contributions loom in salience to family well-being.

The lack of physical capital in Malaysia and other developing countries accentuates the importance of human capital inputs and thus health, to both market and household production and the consequent well-being of the family. The extraordinary reliance on human capital is potentially draining to health with the result that, "In Asia in general, women often have continuous exhaustion" (48).

While several studies have been done on time use of women in developing countries they have been largely descriptive and qualitative due to sample size limitations (10,23,33). Of the samples large enough to permit more rigorous multivariate analyses indicating how specific factors affect allocations of time only one, to our knowledge, have employed a measure to account for the impact of health on time use (26).

The purpose of this paper is to identify determinants of allocation of women's time to market and nonmarket production activities, including health. Today's discussion will focus on model development [illegible] specification as the data from the 1978 Malaysian Family Life Survey are as yet unavailable (5). The units of analysis will be ever-married women in Malaysia, less than 50 years old.

BACKGROUND

Health and Time Use

Ill health, regardless of its cause, will potentially reduce time in both paid and unpaid work as well as its intensity and duration. Measures of health tend to be requisite in predicting labor supply but not in predicting time in household work. Health tends to have a negative effect on hours American women supply to the labor force but the effect is small and may vary by age and race of women (17,40). Analyses of U.S. labor market participation have also shown that women have more short term disabilities and sick days than men. However, this may be attributable more to child care responsibilities than to health.

Much evidence has accumulated documenting the impact of nutritional inadequacy on productivity (25,27,46,3,24,29,13,9). However, most of these studies have been conducted on men and may not be applicable to women.

In estimating the health effects on time use of women in developing countries King and Evenson (26) used sick days to [illegible] in household and market work. The [illegible] did not significantly influence time [illegible] either farm or nonfarm women but the cell sizes were small and thus the results may be spurious. Furthermore, the concept of sick days was used only in an exploratory sense as it is much less likely to capture the extent of health problems in an agrarian workplace than in a highly industrialized economy.

Ngambeki and Ikpi (35) analyzed 250 farmers for the impact of their health on time use, however, it was unclear whether the sample contained farmers of both sexes. Their measures of health included illnesses as well as nutritional intake and indicated that illness reduced farmers' time in farming "to a damaging extent" (p. 315). Nutritional adequacy increased physical performance and farm profitability hinged on both. Their factor analyses of health determinants were particularly effective as any single determinant is relatively weak and multicollinearity and sample size constrain use of individual predictors.

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Determinants of Health

While both men and women in developing countries frequently have serious health problems women's tend to be worse than men's (41,16,18). Women's poorer health is likely a consequence of nutritionally stressful pregnancy and lactation; physically demanding, never-ending market and household work; and the multiplicity of demands spawned by their divers roles.

Malaysian women may spend a large proportion of their adult life pregnant or lactating. Lactation requires even more nutrient intake than pregnancy so may be especially draining on women's health. In Malaysia, as elsewhere, women continue to perform all normal duties until onset of delivery; however, traditionally they do not work for 40 days after (42).

In developing countries in general, women frequently lack not only sufficient number of calories but also particular nutrients, especially iron. They are more likely than men to have iron deficiency anemia which may lessen productivity even more than caloric insufficiency (4).

Women in rural areas of Malaysia continue to engage in strenuous farm and household work. Furthermore, they frequently hold two or more market jobs in addition to their household production responsibilities (43). The results of this on their own and their children's health are ambiguous as women's income in developing countries are often more likely than men's income used to increase food expenditures and otherwise contribute to family well-being (38,39,15).

However women's labor force participation may reduce time available for home production of food and thus may decrease nutritional well-being. A negative effect has been documented in Malaysia (8) and the Philippines (37). Other studies have found no impact (12,31).

Household income is related to many of the determinants of health; women's health tends to be inversely related to income (16). Income increases quantity of food available if not the quality of the food and thus improved nutritional status (7,30,21). Income may also influence prevalence of disease; low-income households have less adequate sanitation, water sources and housing which affect health status. For example, electricity in the household allows women to spend more hours in self-employment and thus increases household income (19).

Rural and urban locations vary substantially in opportunities for women and community capital available to them. When electricity is introduced to a community women's perceived work opportunities and reported work time and household incomes had increased (19). Not only are women in rural areas less likely to have basic capital such as piped water and electricity but they are more likely to engage in strenuous agricultural or other physically demanding labor than those in cities.

Malaysia is a country of ethnic diversity; Malay, Indian and Chinese races live together in a country committed to economic modernization. Ethnically-related norms may influence women's time allocation not only through differing demands but also due to the division of labor and use and availability of other inputs within the farm and household. Cultural differences are related to location as the Chinese tend to live in or near cities while Malays reside primarily in rural areas. Indians reside in both places (42).

Household Economic Theory

Household members derive utility from market goods, household produced goods and leisure, and allocation choices are made jointly. In order to both maximize utility and minimize costs of production, household economic theory posits that people allocate their time among three categories of use: market production, household production and leisure (14). Household (home) produced goods are made at home using direct inputs of time of household members, unearned income, physical capital, including purchased goods, demands planned and unplanned and the indirect input of human capital, including health. Human capital is an indirect input as it affects the productivity of the direct inputs. The distinction between market and household production is that the former generates cash or in kind substitutes for cash while the latter generates real income. Constraints to the system include not only the inputs to the production process but also prices of market goods, wages, job costs and cultural factors.

Following this general framework and previous research the following model was derived to test the impact of health on time use.

$$T_{hij} = b_0 + b_1W_{1i} + b_2W_{2i} + b_3V_i + b_4H_i + b_5K_i + b_6A_{ij} + b_7P_{ij} + b_8C_i + b_9J_i + b_{10}S_i + e \quad (1)$$

where: T = wife's time in household work or in paid work;
W_1 = wife's wage rate;
W_2 = husband's wage rate;
V = unearned income;
H = wife's health, age and education;

K = measure of housing quality;
A = measure of community capital, urban or rural residence;
P = price of market goods;
C = numbers and ages of children;
J = costs associated with wife's job;
S = season;
b_i = regression coefficients;
h = subscript referring to household or paid work;
i = subscript referring to households;
j = subscript referring to communities;
e = error term.

Data

The data for this analysis were collected in 1976-77 by The Rand Corporation for the U.S. Agency for International Development. Sample members were randomly selected from households in Peninsular Malaysia containing at least one ever-married woman less than 50 years old at the time of the first interview. Of the 1,262 initial households 1,207 continued throughout the data collection period.

The purpose of the survey was to study fertility but in the process much tangential information was also acquired. Data were collected on time use, housing, business, earnings, assets, communities and other topics. The research reported herein will use data from the Household Roster, Female Retrospective, and Female Time Budgets.

Variables in equation 1 are defined in Table 1. The time use data were collected with a recall method. Time in paid work was recalled for the past 7 days along with frequency over the last four months. For household time use a list of tasks was provided to the homemaker who responded with amount of time she recalled spending at that task in the previous 7 days.

Table 1. Definition of Variables

Time in household work	Sum of time spent in washing & ironing clothes, shopping, food preparation, cleaning, child care, producing products at home for home use, other.
Time in paid work	Sum of time spent in paid employment, self employment, producing products at home for sale.
Price of market goods	How prices have changed since 1970, 1=increased, 2=decreased, 3=same, judged by community leader
Human Capital	
Health	A set of factor scores[1]
Wife's education	Highest level completed (0-23)
Wife's age	In years
Physical capital	
Housing quality	A set of factor scores[2]
Farm capital	A set of factor scores[3]

Table 1. (continued)

Community Capital	
Urban/rural residence	Dummy variable coded 0,1
Size of community	
Employment opportunities	Employment opportunities compared with 1970, 1=as easy, 2=easy, 3=more difficult, as judged by a community leader
Standard of living	Compared with 1970, 1=better off, 2=not so well off, 3=the same, judged by a community leader
Unearned income	
Wife's wage	Amount of cash earnings per hour + amount of kind earned per hour in Malaysian dollars[4]
Husband's wage	Amount of cash earnings per hour + amount of kind earned per hour in Malaysian dollars
Husband's time in paid work	Hours worked per week X Number of weeks worked per year
Children	Number of children age nine and under; number of children aged 10-14
Farm residence	Dummy variable coded 0,1
Wife's ethnicity	Malay, Chinese, Indian, Other
Wife's work-related costs	Distance to work

[1] Variables used to construct the health factor(s) include number of live births, total number of births, number of living children, time between births, time in lactation, reasons for stopping lactation prematurely, income, distances to doctors, nurses, midwives, hospitals and public clinics, prevalent diseases in community in last 5 years.

[2] Variables used to create the housing factor(s) include rooms per person, tenure, wall materials, presence of toilet and bath facilities, presence of electricity and piped water.

[3] Variables used to create farm capital factor(s).

[4] These are earnings in the past 4 months.

REFERENCES

1. Adler, Hans J. and Hawrylyshyn, Oli. "Estimates of the Value of Household Work: Canada 1961 and 1971." **Review of Income and Wealth**, 1978, 2:333-355.

2. Balakrishnan, Revathi. 1981. Productive Activities and Economic Contributions to Family Income of El Salavador Women. Ph.D. diss., The Ohio State University, Columbus.

3. Basta, Samir S. and Churchill, Anthony. **Iron Deficiency Anemia and the Productivity of Adult Males in Indonesia.** Working paper, no. 175. Washington, DC: International Bank for Reconstruction and Development, 1974.

4. Beenstock, Michael. Nutrition Productivity. Washington, DC: International Bank for Reconstruction and Development, 1978.

5. Butz, W. P. and DaVanzo, Julie. *The Malaysian Family Life Survey*. Santa Monica: Rand Corporation, 1978.

6. Chavez, Adolfo and Martinez, Celia. "Nutrition and Development of Children from Poor Rural Areas v. Nutrition and Behavioral Development." **Nutrition Reports International**, 1975, 11:477-89.

7. Chernichovsky, Dov and Kielmann, Arnfried. "Socioeconomic Status, Diet, and Growth of Preschool Children in Rural Punjab--India." Washington, DC: International Bank for Reconstruction and Development, 1978.

8. DeVanzo, Julie and Lee, Donald Lye Poh. "The Compatability of Child Care with Nonmarket Activities: Preliminary Evidence from Malaysia". In **Women and Poverty in the Third World**, edited by Myra Buvinic, et al., Baltimore: John Hopkins University Press, 1983.

9. Edgerton, V. Reggie; Gardner, Gerald W.; Ohira, Y.; Gunawardena, K. A.; and Senewiratne, Brian. "Iron-Defiency Anemia and Its Effect on Worker Productivity and Activity Patterns." **British Medical Journal**, 1979, 2:1546-1549.

10. Erasmus, Charles J. "Work Patterns in a Mayo Village." **America Anthropologist**, 1979, 57:332-333.

11. Evenson, Robert E. "The Allocation of Women's Time: An International Comparison." **Behavior Science Research**, 1983, 17:196-215.

12. Evenson, Robert E. and King-Quizon, Elizabeth. "Time Allocation and Home Production in Philippine Rural Households." Paper presented to the International Center for Research on Women Workshop on "Women in Poverty: What Do We Know?", Elkridge, MD, 1978.

13. Gardner, Gerald W., Edgerton, W. Reggie, Senewiratne, Brian, Barnard, R. James, and Ohira Yoshinobu. "Physical Work Capacity and Metabolic Stress in Subjects with Iron-Deficiency Anemia." **American Journal of Clinical Nutrition**, 1977, 30:910-17.

14. Gronau, Reuben. "Leisure, Home Production and Work: The Theory of the Allocation of Time Revisited." **Journal of Political Economy**, 1977, 85:1099-23.

15. Guyer, Jane I. "Household Budgets and Women's Incomes." Working paper, no. 28. Brookline: African Studies Center, Boston University, 1980.

16. Hamilton, Sahani; Popkin, Barry; and Spicer, Deborah. *Women and Nutrition in Third World Countries*. New York, Bergin and Garvey Publishers, Inc., 1984.

17. Hanoch, L. In **Female Labor Supply: Theory and Estimation**, edited by James P. Smith, Princeton: Princeton University Press 1980.

18. Harrington, Judith A. "Nutritional Stress and Economic Responsibility: A Study of Nigerian Women". In **Women and Poverty in the Third World**, edited by Mayra Buvinic, et al., Baltimore: The John Hopkins University Press, 1983.

19. Herrin, Alejandro N. "Rural Electrification and Fertility Change in the Southern Philippines." **Population and Development Review**, 1979, 30:955-64.

20. Ho, Theresa J. "Time Costs of Child Rearing in the Rural Philippines." **Population and Development Review**, 1979, 5:643-662.

21. Jansen, G. R., Jansen, N. B., Shigetomi, C. T., and Harper, J. M. "Effect of Income and Geographical Region on the Nutritional Value of Diets in Brazil." **American Journal of Clinical Nutrition**, 1977, 30:955-64.

22. Jimenez, Marcia Houdek and Newton, Niles. "Activity and Work During Pregnancy and the Postpartum Period: A Cross-Cultural Study of 202 Societies." **American Journal of Obstetrics and Gynecology**, 1979, 135:171-76.

23. Johnson, Allen. "Time Allocation in a Michiguenga Community." **Ethnology**, 1975, 14:301-310.

24. Karyadi, Darwin and Basta, Samir S. "Nutrition and Health of Indonesian Construction Workers: Endurance Anemia." Staff working paper no. 152. Washington, DC: Research Division, Transportation Department, International Bank for Reconstruction and Development, 1973.

25. Keys, Ancel Benjamin; Brovek, Josef; Henschel, Austin; Mickelsen, Olaf; and Taylor, Henry Longstreet. *The Biology of Human Starvation*, 2 volumes. Minneapolis: University of Minnesota Press, 1950

26. King, E. and Evenson, R. E. "Time Allocation and Home Production in Philippine Rural Households." In **Women and Poverty in the Third World**, edited by Mayra Buvinic, et al., Baltimore: The John Hopkins University Press.

27. Kraut, H. A. and Muller, E. A. "Calorie Intake and Industrial Output." **Science**, 1946, 104:495-497.

28. Kusnic, Michael W. and DaVanzo, Julie. Income Inequality and the Definition of Income: The Case of Malaysia R-2416 AID. Santa Monica: Rand, 1980.

29. Latham, Michael C. and Brooks, Mark. **The Relationship of Nutrition and Health to Worker Productivity in Kenya.** Technical memorandum, no. 26. Washington, DC: Transportation Department, International Bank for Reconstruction and Development, 1977.

30. Levison, James F. Morinada: An Economic Analysis of Malnutrition Among Young Children in Rural India. Cambridge: Cornell/MIT Internation Nutrition Policy Series, 1974.

31. McGuire, Judith Snavely. 1979. Seasonal Changes in Energy Expenditure and Work Patterns of Rural Guatemalan Women. Ph.D. diss., Massachusetts Institute of Technology.

32. McSweeney, Brenda Gael. "Collection and Analysis of Data on Rural Women's Time Use." **Studies in Family Planning**, 1979, 10:379:383.

33. Mangkuprawira, Sjafri. "Married Women's Work Patterns in Rural Java." In **The Endless Day: Some Case Material on Asian Rural Women**, edited by T. Epstein, et al., Oxford: Pergamon Press, 1981.

34. Murphy, W. "The Value of Nonmarket Household Production: Opportunity Cost Versus Market Cost Estimates." **Review of Income and Wealth**, 1978, 24:243:256.

35. Ngambeki, D. S. and Ikpi, A. E. "Rural Farmer Productivity in the Tropics: The Nigerian Experience." **Canadian Journal of Agricultural Economics**, 1982, 30:297-318.

36. Nordhaus, Tobin James. "Is Growth Obsolete?" Paper presented at Economic Growth Fiftieth Anniversary Colloquium V, NBER, New York, 1972.

37. Popkin, Barry M. "Nutrition and Labor Productivity." **Social Science and Medicine**, 1978, 12:117-25.

38. Popkin, Barry M. and Solon, Florentino S. "Income, Time, the Working Mother and Child Nutriture." **Journal of Tropical Pediatrics and Environmental Child Health**, 1976, 22:156-66.

39. Safilios-Rothschild, Constantina. 1980. "The Role of the Family: A Neglected Aspect of Poverty," in Peter T. Knight, ed., Implementing Programs of Human Development. World Bank Staff Working Paper no. 403. Washington, DC: World Bank.

40. Schultz, Theordore E. In **Female Labor Supply: Theory and Estimation**, edited by James P. Smith, Princeton: Princeton University Press 1980.

41. Schultz, Yves; Lechtig, Aaron; and Bradfield, Robert B. "Energy Expenditure and Food Intakes of Lactating Women in Guatemala." **American Journal of Clinical Nutrition**, 1980, 33:892-902.

42. Standing, Guy. Labour Force Participation and Development. Geneva: International Labor Office, 1978.

43. Strange, Heather. Rural Malay Women in Tradition and Transition. New York: Praeger Publishers, 1981.

44. Sulaiman, Husna Binti. 1984. The Productive Activities of Malaysian Women in the Market and Household Production Sectors. Ph.D. diss., The Ohio State University, Columbus.

45. Tripp, R. B. "Time Allocation in Northern Ghana: An Example of the Random Visit Method." **Journal of Developing Areas**, 1982, 16:391-400.

46. Viteri, Fernando E. "Considerations on the Effect of Nutrition on the Body Composition and Physical Working Capacity of Young Guatemalan Adults. In **Amino Acid Fortication of Protein Foods**, edited by Nevin S. Scrimshaw and Aaron M. Altschul. Cambridge: MIT Press, 1971.

47. Weinrobe, Maurice. "Household Production and National Production: An Improvement of the Record." **Review of Income and Wealth**, 1974.

48. Whyte, R. O. and Whyte, P. The Women of Rural Asia. Boulder, Westview Press Inc., 1982.

PROBLEM-RESOLUTION APPEALS IN TELEVISION ADVERTISING

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INTRODUCTION

Consumers are often criticized for having short time horizons. Individuals are advised to plan ahead and delay expected payoffs. Yet in one aspect of every day life -- the television commercial -- consumers receive exactly the opposite message. Commercials offer easy, immediate solutions to problems. Television advertising is of interest because of its high visibility, pervasiveness, persuasiveness, and potential for shaping beliefs, attitudes and behaviors.

Life portrayed on television is a persistent cycle of problems and solutions. Some of the problems are small and insignificant, others are so large they threaten life itself. On television, problems are solved, sometimes miraculously, within a short period of time.

In this study, a content analytical design was used to examine problems and resolutions presented in television commercials. The specific objectives of the study were: 1) to determine the extent to which problems are presented and 2) to analyze problem resolutions.

METHODOLOGY

A problem-resolution appeal is the presentation of a product or service as the solution for a problem. Resolutions were measured by the following criteria: presentation, time required, certainty, and complexity.

A sample of advertisements was obtained by videotaping all national commercials aired on three networks (ABC, NBC, CBS) during prime time for seven days and daytime for two weekdays, Saturday and Sunday. Taping occured in September, 1984.

Some 3,662 national advertisements were aired, including repeated advertisements. A total of 1,380 different national commercials comprised the sample. Commercials were coded by three trained coders; intercoder reliability was 0.89.

FINDINGS

Findings support the hypothesis that problems are presented in a majority of commercials and that when a problem is presented, a resolution is also shown. Problems were present in 72.8% of the advertisements, and in each case a solution was provided.

Not only did every problem in the sample have a solution, but the resolutions were presented as easy, quick and certain, requiring little from the consumer beyond the purchase of the product or service. No commercial left the viewer with an unresolved difficulty.

Findings are shown in the table above, right.

RESOLUTION			
presentation			
	explicit		69.2 %
	implied		30.8 %
time			
	seconds/minutes		81.6 %
	hours/days		16.4 %
	months/years		2.0 %
certainty			
	definite		76.1 %
	probable		23.9 %
complexity			
	accessibility	(local store)	66.2 %
		(special store)	28.0 %
	process	(one step)	76.8 %
		(> 3 steps)	7.9 %

Time refers to the time suggested or implied for resolution to occur. Compelexity defines the ease with which the viewer can obtain the product or service.

CONCLUSIONS

Television portrayals of problems create the impression that all problems can be solved easily, no matter how large or small they are. Many of the problems presented could be classified as common, everyday events (e.g. ring around the collar, dust on the furniture, or finicky cats). These everday events are escalated into major crises.

Other commercials present serious problems and trivialize them to the point of meaninglessness, (e.g. emotional disorders or physical ailments). Consumers are led to believe that there is a medicine or treatment for most ailments. Disillusionment can occur if consumers succumb to the allure of an easy quack cure. Another example, lonliness, is easily overcome by using the right toothpaste or drinking a certain soda. Emotional problems cannot be so easily solved.

Thus, television advertisements reinforce short time horizons by presenting simplified solutions to exaggerated problems. It is logical to ask: to what extent do consumers identify with the problems presented and believe in such easy solutions? It is plausible that television commercials have some impact. This study documents that problem-resolution appeals are the dominant form of advertisement. Further study could uncover what kind of effects these advertisements have upon consumers.

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VIEWS ON CONSUMER FOCUS GROUPS AS EXPLORATORY RESEARCH TOOLS

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Betty Abbas, Gordon S. Black Corporation,[3] Mary Carsky, University of Connecticut[4]

ABSTRACT

The design and use of focus groups as an exploratory research tool in the consumer field were discussed and illustrated with a videotape of a focus group on "The Ideal Pharmacy" conducted at Syracuse University to generate research hypotheses. Perspectives on this technique were given by a corporate consumer affairs professional, a marketing specialist and an academic. All the speakers urged quantitative researchers in the consumer field to use more qualitative research, especially focus groups, to generate hypotheses and ideas, to pre-test questionnaires and to target their audiences.

OVERVIEW AND A CASE IN POINT

A focused group interview, more commonly called a "focus group," is a "qualitative tool for collecing information in which a number of respondents simultaneously discuss a given topic under the guidance of a moderator" [2]. Calder outlines three distinct approaches to the use of focus groups. 1) The exploratory approach which we are looking at today is undertaken to generate theoretical ideas and hypotheses that can be verified with quantitative research. 2) The clinical approach attempts to conduct qualitative research as a scientific endeavor; to get at the underlying causes of behavior that are not directly available from self-reports. 3) The phenomenological approach provides the opportunity for researchers to put themselves in the position of the group participant and thus understand the everyday experience of the group members, i.e., to talk to the customer [1].

The processes used in focus groups have some elements in common with group problem-solving, group brainstorming, discussion groups and psychotherapy groups. The evidence from research studies examining these techniques appears to contradict some of the commonly held assumptions about focus groups. There has been only one study directly testing focus group assumptions [3].

Some of the common beliefs about focus group methodology, that relate to the focus group that will be viewed this morning are as follows:

1. Focus groups provide more information that is qualitatively better than that provided in individual interviews. Fern, however, found in a comparison of focus groups with individual interviews that the latter produced more ideas and ideas of higher quality [3]. The focus group that we will observe illustrates considerable synergism as the group members build on each other's ideas. There were many points that emerged from this group focusing on an ideal pharmacy, that had not occurred to me after reading the literature and talking with individuals. Pharmacists were also surprised at the direction of the discussion. The reaction to the physical layout of pharmacies and the confusion of consumers about the training and expertise of pharmacists relative to physicians were unexpected and revealing. Sometimes the lack of discussion of a factor assumed to be important can be significant in eliminating preconceived hypotheses.

2. The ideal focus group size is between eight and twelve members. Opinion varies greatly about this in the literature however, from those who prefer 20 or more to Fern who found that the incremental number of ideas per person decreased as group size increased from one to eight members [3]. The focus group that you are about to view includes 16 people. A group of eight would not have provided the cross-section of age, sex and family type that was desired. The matrix illustrated provided the basis for the selection of participants in the focus group to be viewed. The level of discussion was excellent.

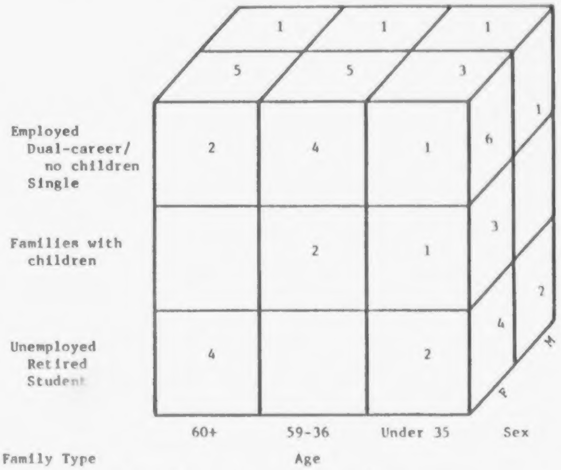

Figure 1: Number of participants used in focus group screening matrix

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[1] Presenter: Director of Consumer Studies Program.

[2] Discussant: Director of Consumer Affairs.

[3] Discussant: Management Associate.

[4] Discussant: Asst. Professor Dept. of Design and Resource Management.

3. The third belief is that the moderator plays a crucial role in focus groups. The moderator's expertise, personality traits and focus group procedure are critical to promoting group interaction [3]. Fern found, on the other hand, that moderated focus groups did not generate more or better ideas than unmoderated groups. He worked with group sizes under eight. The most important role of moderator as I used it in the focus group we will view was to give everyone an opportunity to speak and not to force any ideas on them; to ask open-ended questions that could not be answered by a "yes" or "no." An effective moderator must never become argumentative even when the discussion does not produce the expected results. Calder states that involvement of the moderator depends on the type of approach to focus groups. For exploratory purposes it is not so important because the group is a convenient way to interview a number of people, any one of which may stimulate the moderator's scientific thinking. When using the phenomenological approach, the moderator is part of the interaction, but is not when the clinical approach is used [1].

4. The fourth belief is that within-group homogeneity of members should be maintained in focus groups. The homogeneity recommended differs among authors, but includes occupation, age, education, intellectual and social status, lifestyle, and life-cycle stage. Heterogeneous groups may be good for exploratory focus groups; homogeneous groups are more important for clinical and phenomenological groups, according to Calder [1]. The group you are about to hear represents different ages, family income patterns, life-cycle stages and family size. They are, however, all middle class and college educated. They included the following: 4 women from empty-nest dual-income families; 2 single career women, one male; 3 homemakers, one with 3 children and a new baby, one with a new baby only, and one with teenagers; two retired single women, one retired married male; and two students, one male and one female.

The focus group entitled "An Ideal Pharmacy" was conceived to generate ideas for a research project to study ways to improve consumer compliance with drug regimens by working in a pharmacy setting. The group was to be videotaped so that it could be transported to groups of pharmacists for feedback as to the practicality of the suggestions generated. An attempt to recruit participants at pharmacy sites to come to campus for taping was not successful although people were willing to answer questions on the spot. Recruiting was done by telephone through organization representatives, i.e., senior citizen groups, church and professional clubs. A small gift certificate was offered in the recruiting process. A box-supper was held in the studio to enable the focus group members to get comfortable with the studio environment and meet each other before the taping. Free parking was arranged. The meeting time was scheduled from 5:30 to 7:00 p.m. including supper and taping. The time flew and a wealth of new ideas was generated.

[Selections from the videotape were shown.]

VIEW FROM A CONSUMER AFFAIRS PROFESSIONAL

Peggy Haney, the Director of the Consumer Affairs Office at American Express discussed how and why they use focus groups. A primary use is to provide insights for developing surveys and other research techniques. A major function of the Consumer Affairs Office is to listen to the customer and keep management up-to-date on consumer trends and issues. They have used consumer panels which are somewhat different from focus groups to achieve these ends.

American Express has diversified very quickly and two years ago undertook a massive image study to discover how their customers perceived them following their acquisitions. The market research department conducted about 45 focus groups all around the country with some very select homogeneous groups just to get some initial ideas. Although consumer affairs people may sit in on these via one-way mirrors and have access to this kind of information if they need it, they do not get involved in product specific nor bottom-line specific focus group research.

If focus groups are seen along a continuum from the very formal market research groups to informal ongoing consumer leader panels, the type of groups that the Consumer Affairs Office has been experimenting with at American Express the past two years falls somewhere in the middle. Four Consumer Leader Panels have been conducted during the last two years, each one being conducted a little bit differently to see which works best. The first group was in Westchester, N.Y. led by a professional consumer advocate facilitator. They discussed financial deregulation issues for two and one-half hours. Consumer Affairs staff participated in the group discussion. The second and third groups met in Minneapolis and used a one-way mirror for staff observation. These panels were drawn from the Minneapolis-St. Paul community representing various constituencies, i.e., League of Women Voters, Hispanic Organizations, Governor's Office of Consumer Affairs. Participants were chosen because they had some knowledge in the financial area and were thought to be outspoken about their constituents' needs. The final group was conducted in California. This group met for a full day, starting with an evening reception for people to get acquainted. The consumer leaders were drawn from all across California, and were very knowledgeable about financial matters. Half of them were public interest lawyers. Some American Express corporate executives also sat in on the discussions. This gave management a direct feel for what this leading-edge group had to say. We recognize that one or two comments do not make a trend, but such groups provide insights to take back to our management or to the market research group and say, "I think we ought to look into this."

The Consumer Affairs Office is currently exploring the farthest end of the focus group continuum described, that is, setting up an ongoing Consumer Advisory Panel, made up of a nationwide group of consumer leaders to provide us with insight on a regular basis. The model for this is Pacific Bell's Consumer Panel which is one of the oldest ongoing consumer panels in the country. The objective of the panel is to identify and evaluate consumer issues, attitudes and priorities as they impact a given corporation, and to provide counsel to corporate staff on policy initiatives. Such a panel might be fairly autonomous; include some company management; provide for rotation on and off the board; set the agenda for each bi-monthly meeting; and receive feedback from the company about their recommendations. The Pacific Bell Panel also issues an annual report for in-house circulation on the issues the panel has dealt with and how the company has responded as well.

At American Express, we taped three of the panel discussions and will show the ten minute edited version to in-house management to effectively underscore the message we will deliver. Along with very valuable insight into financial industry issues, we also may have witnessed a classic process of issue development. In 1984, when we conducted the New York panel deregulation was just getting started. People didn't know what it meant except that fees were being charged for things that had been free. They had an uneasy sense of a problem emerging, but couldn't articulate it. The Minneapolis groups were very articulate and said a lot about the issue of trust and financial institutions. Then in California, in late 1985, the group was talking about lifeline, lawsuits and legislation and hearings. We questioned whether these differences reflected the pattern of an emerging issue or whether it was just the different constituencies. It was probably some of both.

Benefits to the company of setting up such an ongoing panel appear to be obvious. They provide warnings, far in advance on the issues that are developing so we can be responsive before we have to meet someone in court. The corporation wins and the consumer wins. Consumer leaders also find some benefit in the fact that they can help influence what major corporations do. They have a direct channel into management for their concerns. The credibility of management is increased with consumer leaders, and the credibility of consumer leaders is increased with management through this face-to-face communication.

VIEW FROM A MARKET RESEARCHER

The Gordon S. Black Corporation in Rochester where Dr. Abbas is a management associate is a full service market research firm which uses the full range of techniques from focus groups to quantitative research. It is also the exclusive polling firm for U.S.A. TODAY. From this background, she stressed the benefit of focus group work as qualitative research. University people have a good understanding of what research is and what quantitative research can do. However, they are not as aware as are those in industry that qualitative research, which is not projectible, can provide insight and help in the development of quantitative research.

Qualitative research is the only way to explore consumer attitudes, really explore them. How many times have you gotten a questionnaire back, or the results of your survey back, and your reaction is "I wonder why that is"? If you didn't think to ask why when you designed the instrument the answer is lost. Or even if you did ask why, did you get the complete reason? As the data are coded, you might know that I didn't go to that bank because the lines are too long, but what about the lines being too long....what is too long? Too long may not be the same for each of us. In a focus group situation you can explore what words mean to individuals so that you can understand what consumers are doing, and why they are doing it.

Focus groups often capture the first indicators of social trends. You begin to see them happening early. For example, we saw the relaxation of yuppyism two years ago, before it was coming out in quantitative data. In quantitative data you are asking "What are you doing?" and that is what people are telling you. In qualitative research they will tell you what they are doing but they also will tell you that they are beginning to wonder if this is really what they want to do. You hear such things as "I work an 80 hour week and I don't know if I want to do that any more." "I think I want to cut back to 60 hours." "I have a baby now and I'm not going to work every weekend." They are redefining their goals.

Another trend we've seen that is especially important for consumer affairs professionals, is that people are tired of having to be good consumers. They are saying, "All this deregulation is too much work!" "I don't want to bother about it." We have found in working with as diverse products as vegetables, telephones, and the financial services industry that people are willing to pay more if they don't have to think. We saw this trend four years ago and I expect that quantitative research is picking it up now.

In industry, qualitative research is the first step in quantitative research. Our company almost never does a quantitative project without first conducting a qualitative project to generate the hypotheses, understand the language, and get some ideas as to how we can phrase the questions. At the university, we never did qualitative research. Researchers all sat around and said "Well, we know what the issues are, we know what we want to ask." The consumers were never asked what things concerned them about the topic to be researched. By doing qualitative research first, we have found surprises. We found things that we thought everybody knew, and when we went out to the consumers, they didn't know and they didn't care. In order to get the information we wanted, we had to phrase the question in a completely different way.

Qualitative research gives you the consumers' vocabulary. This is especially important when you are working with special interest groups, but it can be true across the board.

Qualitative research also helps to assure that when you go out for the quantitative study that you have the right group targeted. You might think for example that divorcees would be the perfect target group for financial services information. Not necessarily so. We did focus groups among divorcees and discovered their attitude was "I never did anything on my own before and now I'm going to do it all. No one is going to make plans for me." Even if we still want to give divorcees financial information, we discover from the focus groups that we should not target them in the same way as we do other groups. You wouldn't get this information through quantitative research; they would just say no and hang up the phone.

Another use for focus groups is in questionnaire re-design. If you are using a tracking project and you find that you aren't getting the kind of information that you think you want, take time to step back and do a focus group on the topic. Get the people who are filling out that instrument and sit down and talk about it. I thought about this as a strategy at the Bureau of Labor Statistics group yesterday when they were talking about their diary collections. We did some focus groups with one manufacturer on invoices. They were getting complaints that people couldn't understand the invoices. We worked with the billing groups and asked how they would redesign the forms. The result was an invoice that included the required information in an understandable way. You can't do that sort of thing with a quantitative study.

When using qualitative research in the University setting, you may not always achieve the ideal situation. Circumstances sometimes dictate what is possible. In industry we would never have 16 people, nor as diverse a population group as Margaret collected. However, I urge you to get started, even if you have to break some of the rules. There are a few things to remember: 1. You do need to be clear about what your objectives are, 2. define which audience you want to target.

Screen for the people in your groups. Don't go out and pick your friends and neighbors, as that will not give you the interaction you want. Establish not only the demographic criteria, but the attitudinal and behavioral criteria for picking your group. For example, you might want to determine whether an individual was the decision-maker about drug purchases, the drug-user, or only the person who picks up the prescriptions. We advise keeping the groups small, usually not more than ten...twelve as an absolute maximum. Smaller groups provide much better interaction.

One final comment about focus groups in academia. I think faculty members can become excellent moderators for focus groups. They are used to asking questions, and controlling group settings. The only thing they are not used to doing, which must be done when using this technique, is taking the back seat!

Consider using some qualitative research with your next project. Experience from industry would indicate that focus groups and other forms of qualitative research can improve quantitative research.

VIEW FROM AN ACADEMICIAN

The focus group as a research tool appears to be highly underutilized in academia. While the focus group idea is rooted in social psychology, marketing is about the only discipline that uses it. Marketing's use is frequently associated with applied marketing research.

Exploratory focus groups can be used either for idea generation or for testing. In terms of the inter-disciplinary scope of the ACCI membership, we could use focus groups for hypothesis generation and also for the determination of attributes. We are moving very much more to the use of secondary data sources in our research. In designing our studies we develop hypotheses and measure the effects of selected variables. We generate hypotheses based on our conceptualization of the issue and on the literature--literature which we ourselves produced. Particularly when working with secondary data sets, it would behoove us to conduct focus groups with people who are far removed from academia in order to generate testable hypotheses.

When generating attribute lists, we tend to use literature reviews and thus find attributes that other groups of academics have discovered. Based on this, we give closed-end questions to come up with irrelevant attributes.

Exploratory focus groups can also be used for testing, and pre-testing our questionnaires. I don't know how you do it, but I develop my questionnaire and administer it to a group of people drawn from the population under study. These subjects are asked to make comments about any question which appears problematic in some way. We would probably obtain much more information that is not readily verbalized if we conducted focus groups to pretest our instruments. Today many of us are attempting to study elderly consumers who are not typically good survey respondents. For this target population, we would probably do well to start by using focus groups.

REFERENCES

. Calder, Bobby J. "Focus Groups and the Nature of Qualitative Marketing Research." Journal of Marketing Research 14:353-364.

2. Davidson, Thomas Lea. "When...if ever...are Focused Groups a Valid Research Tool?" In Edward M. Masse (ed.), Combined Proceedings, American Marketing Association Conference Series, No. 37, 1975.

3. Fern, Edward F. "Focus Groups: A Review of some contradictory evidence, implications and suggestions for future research." In Richard Bagozzi and Alice Tybout (eds.), Proceedings of the Association for Consumer Research, Thirteenth Annual Conference, 1982.

FUN AND GAMES IN THE MARKETPLACE

Consumerism and You

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ABSTRACT

Consumers should not take themselves too seriously, and yet seriously enough to get the marketplace to shape up. This paper is really a "show-and-tell" type of presentation with many examples of inadequate labeling, misleading advertisements, packaging problems, conflicts over the consumer's right to know, and the question of too much or too little government regulation of the marketplace. All presented in a light-hearted manner, but with a message.

A woman who took my consumer economics course said that she wished she had never taken it. "Shopping used to be fun, now you have made it work for me . . ." Now she has to first ask herself does she need the item. She has to check Consumer Reports. She must check the ads in the newspapers carefully. She must read the labels with greater care and do much comparison shopping. The fun is gone. One of my students told me that his mother asked him not to go shopping with her any more. He said she would take something off the shelf; he would check it, point out why she should not buy it and put it back on the shelf. She wanted no more of that.

There are fun and games to be had in the marketplace. Consumers should not take themselves too seriously, and yet they should take the task of shopping seriously enough to get the marketplace imperfections, misleading practices and frauds cleaned up. Let's look at some of the kinds of problems that have confronted consumers over time and ask ourselves how many of these kinds of things should be allowed to continue.

Pity the mother whose child had a fever and was reading a copy of a woman's magazine that had an ad that stated: "It works like children's aspirin. . . but it's safer. Introducing new TYLENOL chewable tablets." Then just a few pages further on in the same magazine a Bayer Children's Aspirin ad stated: "No, Mother, Tylenol is not found safer than aspirin." After these two ads appeared, the Council of Better Business Bureaus' National Advertising Division accepted the safety superiority claim for children's Tylenol non-aspirin compared to aspirin. Little good that did the mother at the time she needed good, reliable information.

"You can receive a guaranteed life income of up to 14%, depending on your age," was the claim of a religious organization's annuity ad in a religious magazine. What the ad did not tell you was that you would qualify for the 14% rate, if you were ninety years old.

An almost full-page ad in an issue of the New York Times (you know, the newspaper that prints all the news that's fit to print) read, "World Atlas: $1.00." The ad pointed out that the atlas depicted nearly 100 nations--every continent, major political subdivision, city, etc., etc. "All in eye-popping full color. 16 pp., 2 5/8" x 4 1/4". The trifling $1 price even includes sales tax and shipping!" Well, when buyers got their atlases were they surprised. It was less than one millimeter thick, but 16 pages. Cut out a 3" x 5" index card and you will get an idea of how small 2 5/8" x 4 1/4" really is. The New York Attorney General filed a civil complaint that the company fraudulently misrepresented a small, paperback book of maps as a world atlas, and it omitted Antarctica, plus much more. Two hundred thousand of these tiny atlases were sold!

Beers-DeVries, Ltd., advertised a genuine diamond ring--only $5.00 plus $1.00 for shipping and handling--a hand-polished, 17 faceted, .25 point hand-cut diamond, mounted by professional diamond setters in a magnificent, fully adjustable Tiffany setting. And that is what you got--one four-hundredth of a karat, as the ad stated! And the ring was adjustable.

Another full-page ad in the New York Times headlined: "Free! Genuine 14-karat gold wash necklace, 16 inches long. Guaranteed to contain not less than .0254002 to .0762003 microns of genuine 14-karat gold." The necklace was "free" if you sent in $2.97 for a trial subcription to a magazine. I checked with a physics prpofessor and found out that a micron is a unit of length equal to one-millionth of a meter--about the size of an atom!

Then we have One-Stroke, a complete, one-step wood refinishing kit. The ad stated, "So easy a child can do it." And the ad also stated, "Keep out of reach of children."

The New York Times, not having a sense of humor, rejected an ad for Three-Mile Island Creamy Mushroom Dressing that purported to "melt down on your salad with a flavor explosion that will make your next salad an historical event." The New Yorker, Scientific America, ard Chicago Magazine also rejected the ad, while Harvard Magazine, Bon Appetit, Omni and Metropolitan Home found it acceptable.

How many consumers have heard of the Good Housekeeping Seal of Approval? Almost all consumers say that they have, and then are surprised to find out that there is no such thing and hasn't been since a Federal Trade Commission ruling in 1941. It is merely a limited warranty seal, not a seal of approval.

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I am not sure whether this is true or apocryphal, but at least it illustrates fun and games. A person who had purchased a Cabbage Patch doll sent the doll back to the company after the arms had come off. Well, the company sent the person a death certificate.

In my consumer class I have the students find an ad that seems to claim too much and then write to the company requesting substantiation for the claim. One student saw an ad for Wrinkles Away, a gadget to use to press the wrinkles out of one's suit, skirt, or trousers. She wrote a polite letter to the president of the company asking for substantiation of the claim. The first paragraph of the letter she received from the company president said: "We appreciate your detailed interest in our product and since you need so many facts and guarantees we feel we can exist without your additional sale."

Then there are all kinds of items one can get for "free" in the marketplace. The Ramada Renaissance Hotel in Denver advertised "Free Hotel Room, Parking $55.00 a night. Parking is mandatory." Look what else "free" can get you:

> Buy 4 gallons of any one Olympic product (paint), get one more FREE.
>
> This coupon is good for a FREE $10 dining certificate. Just present your American Airlines ticket and this coupon when you rent a Lincoln-Mercury or other fine car (compact or larger) from Budget.
>
> Get the Ice Cream Scoop - absolutely FREE. Please enclose $1.00 to help with postage and insurance.
>
> L'Ermitage Hotel - Rooms start at $95 a night but include FREE Rolls Royce or similar elegant limousine service, FREE fruit basket, FREE perfume, FREE newspapers, FREE continental breakfast, FREE parking, and FREE snacks in the bar every night.
>
> ABSOLUTELY, POSITIVELY FREE - pay only $2.94 for postage, order acquisition, and handling - Giant Wall Calendar.
>
> "Totally free checking." $5.88 for 200 checks. Concord Liberty.

The next time you go shopping and you see something like a Glad package which states 15 free bags, take out the 15 "free" bags (when the store manager is looking), walk out the front door, and see what happens. Fun and games in the marketplace!

Then we have sweepstakes! Is there anyone who has not received a sweepstakes mailing from Reader's Digest? In a recent Reader's Digest sweepstakes, the odds of winning the top prize were one in 73,416,000. Kellogg's ran a sweepstakes in which the odds of winning the top prize were one in 65,000,000. In Burger King's sweepstakes the odds of winning $1,000 a month for life were one in 135,915,000 if you visited them once, but 1 in 11,326,250 if you made 12 visits. If you made 12 visits, your odds of getting a regular Pepsi were 1 in 1.

The next time you go shopping check out the sizes of toothpastes. One day when I did this I found 20 different sizes: .75 of an ounce; 1.4; 1.5; 2.6; 2.7; 2.8; 3.0; 3.25; 4.5; 4.6; 4.7; 5.0; 6.0; 6.1; 6.3; 6.4; 6.5; 7.0; 8.2; and 9.0. Now there is really freedom of choice!

What about the problem of slack fill. Generally when a container is transparent, the food processors seem to be able to fill the package up, but when the packaging material is opaque, it seems that many manufacturers have trouble filling the package to the top. The next time you go shopping check out the packages of macaroni products. If the package has a cellophane window, check and see how full the package is. If it is not full, and if the store manager is not looking, turn the package upside down so that the next person will be encouraged not to buy it, and then maybe the food processors will do away with slack fill packages.

Packaging does cost. Packaging and container costs for food and beverages often exceed the value of the food ingredients inside.

1. Ready-to-mix desserts, potato chips, table syrups, chewing gum, and soft drinks have a packaging value twice that of the food ingredients.

2. Breakfast cereals, soups, baby foods, frozen entrees and desserts have a packaging cost 1 1/2 times greater than the actual contents.

3. The packaging for cake mixes, condiments, cookies, and crackers amounts to about 50 percent of the food value. For meats, raw produce, cheese, sugar, and butter packaging value is only 3 to 7 percent of the food ingredients.

4. On average, about $1 out of $11 consumers spend on food and beverages goes to packaging and containers.

When it comes to ingredient labeling, there is much to be desired. Consumers need adequate ingredient labeling for health reasons, for economic reasons, and also, just because they have the right to know what is in what they are buying.

1. Which food is more than one-quarter sugar?
   [ ] ketchup
   [ ] apples
   [ ] oatmeal cookies
   [ ] diet soda

2. Which food is more than 50% sugar?
   [ ] Hershey's Chocolate Bar
   [ ] Sugar Smacks
   [ ] Twinkies

3. Which of these is the sugariest?
   ( ) ice cream
   ( ) Shake'n Bake Barbecue
   ( ) thick shake

4. Which word does not mean sugar?
   ( ) sucrose
   ( ) dextrose
   ( ) tentose
   ( ) fructose

5. Who eats about 125 pounds of sugar a year?
   ( ) an American
   ( ) a pet horse
   ( ) an elephant with a sweet tooth

The correct answers are: 1. ketchup with 29%; 2. Sugar Smacks with 61%; 3. Shake'n Bake Barbecue with 51%; 4. Tentose (which is what you have at the end of your feet!); 5. an American.

Then we find products that are labeled with ALL the ingredients; for example, Lara-Lynn Fig Bars which contain: Figs, flour, modified corn syrup, corn syrup, sugar, corn starch, water, oat flour, a blend of partially hydrogenated animal and/or vegetable oils (beef tallow and/or soybean oil, and/or palm kernel oil, and/or palm oil, and/or cottonseed oil with BHA and/or propyl gallate used as an antioxidant), dextrose, corn cereal, malt syrup, salt, whey, potassium sorbate, leavening (baking soda and ammonium bicarbonate), citric acid, eggs, artificial flavor, pure lemon oil.

As for Coca-Cola - The New York Times reported a few years ago that a bottle of Coke apparently contained 99.8% water and sugar with the remaining .2% made up apparently of caramel, caffeine, phosphoric acid, cinnamon, nutmeg, vanilla, glycerin, lavender, lime juice, other citrus oils and fluid extract of guarana, coca leaves (with the cocaine removed) and cola nuts. A federal judge once listed 13 changes made in the formula between 1900 and 1980. Aside from the elimination in 1903 of the 1/400th of a percent of cocaine in Coca-Cola, however, most changes involved minor fluctuations in caffeine and sugar usage. Today's change is being billed by Coke as more significant than any of those.

Who knows what Coca-Cola contains today? The Institute of Food Technologists reported that the number of milligrams of caffeine in a 12-ounce serving of soft drinks ranged from 58.8 in Sugar-Free Mr. PIBB, 54 in Mountain Dew, 45.6 in Coca-Cola, 38.4 in Pepsi-Cola, down to 1.2 in Canada Dry Diet Cola. While, as we all know, some have no caffeine, "never did, and never will."

Some packages proclaim the absence of ingredients that were not there in the first place. Orange juice, for example, which does not need preservatives, is often labeled "New, no preservatives."

The food industry sees the label as a billboard, while the FDA states that a label should not be an advertisement. The consumer is looking for understandable adequate information on the label.

The U.S. Department of Agriculture adds to the fun and games in the marketplace. Here are some USDA requirements, but the percentages are not required to be on the labels:

USDA label and content requirements, July 81

Beef with gravy . at least 50% beef (cooked basis)
Gravy with beef . at least 35% beef (cooked basis)
Ham salad .... at least 35% ham (cooked basis)
Ham spread ...... at least 50% ham
Ham chowder
  Ready-to-eat .. at least 5% ham (cooked basis)
  Condensed ..... at least 10% ham (cooked basis)

Eat less fat to ward off heart disease and cancer. That's the advice of health and nutrition experts, including the National Cancer Institute and the Department of Agriculture. But the department's fat-labeling policy discourages healthier eating habits. It allows manufacturers of meat and poultry products to use the terms "lean," "extra lean," "low fat," "lower fat" and "lite" interchangeably. Products with those labels contain 25 percent less fat. Less than what? Well, it could be less than Agriculture's maximum standards, or less than another leading brand or less than the average fat content for that product. Indeed, some of the fattiest meat products, like frankfurters, bologna and sausages, may use the labels if their fat content is only 17 percent less than one of these standards.

And the USDA grading system leaves much to be desired. Here are some examples of the USDA grade confusion:

> For chickens, turkeys, ducks and geese USDA Grade A is the top grade, while Grade A is the second top grade for butter and eggs. For fresh fruits and vegetables U.S. Fancy is the top grade and U.S. No. 1 is the second top grade. Then for egg sizes based on weight we have Jumbo, Extra Large, Large, Medium, Small and Peewee.

Then I am amused as I read on the wrapper of an Oh Henry candy bar - "Quality Guarantee: If not completely satisfied with this Oh Henry Bar, simply return the unused portion stating when and where purchased, and we will gladly replace it." The cost of the 2-ounce bar--40¢. Postage to return it--20¢. A nice gesture on the part of the company, but rather meaningless.

But if packages are adequately labeled, will consumers read and use the label as a guide? Clorox is the number one seller among bleaches. It contains 5.25% sodium hypochlorite and 94.75% inert matter (water), but check the label of other bleaches and you will find that this ratio is standard with almost all bleaches.

How concerned are we with what we eat? Here is a little poem that may answer the question.

COME FOR BRUNCH!

Have a piece of cherry pie,
Some coffee or some tea,
What does sodium caseinate
Mean to you or me?

A dash of carageenan
Xanthium gum or BHT
With polysorbate 60
Shall not spoil this snack for me.

A nicely gassed tomato
With a bit of watered ham,
Plus silicon dioxide...
(Who knows what they fed this lamb!)

Who cares if sorbic acid's mixed
With fluoride and bleached flour,
Carageenan, lecithin
All make for People Power!

Try a sandwich, won't you?
The red dye is so pretty...
Then hurry, we don't want to miss
The "EAT FOR HEALTH" committee.

ANGELA HATCH

What about the consumers' right to know? Do you and I have the legal right to know who makes what we buy? The answer is "No." Labeling regulations require that either the manufacturer's, distributor's, or retailer's name and address must be on most products we buy. If the distributor or retailer chooses to have his name and address on the label, then the consumer does not have the right to know who made the product. I find this disturbing. Do you realize that much of marketing is based upon deceiving the consumer? The identical product may be packaged in a manufacturing plant under a number of different companies' labels, and then each company tries to persuade the consumer that his product is better.

Fun and games in the marketplace. What should be the government's role? We neither want too much government regulation nor too little government regulation. Recently there has been a reaction against government regulation, even in the area concerning the sanctity of life. For example, there has been considerable negative reaction against the 55 miles-per-hour speed limit. The irony of that regulation is that it was put in place not to save lives, but to save gasoline. A by-product has been the saving of lives.

I thought possibly there might be some benefit in pointing out some benefits that have accrued from government regulation, particularly at a time when there is almost a knee-jerk reaction against any one government regulation, regardless of whether there is any validity to it or not.

Consider a few examples of the benefits resulting from some of today's health and safety regulations:

- In the regulated products groups, safety packaging requirements have produced a [illegible] percent drop in ingestions of poisons by children over a four-year period. There are children who would not be alive today but for those regulations.
- Since the safety standard for cribs became effective in 1974, crib deaths by strangulation have fallen by half and injuries by 45 percent.
- According to the G.A.O., 28,000 lives were saved between 1966 and 1974 because of Federal motor vehicle safety regulations. The same G.A.O. report showed that in one state where a detailed analysis was conducted there was also a substantial reduction in the frequency and severity of injuries. With auto accidents the number one cause of paraplegia in the United States, these figures are quite significant.
- The Shriners Burn Institute in Boston reported that in 1971--prior to the children's sleepwear standards--34 percent of its flame-burn injuries involved sleepwear. In 1977, the figure was 0.

Government regulations are not all bad or all good. We need to be selective if government regulations are to benefit the general public.

I think this letter to the governor of Maryland states in a most significant way that government does have a role to play in establishing regulations concerning what we buy and at times how we use what we buy.

> Dear Acting Governor Lee:
>
> A while back you vetoed a bill that would have allowed persons riding motorcycles to choose for themselves whether or not to wear a helmet. I, being a person who wholeheartedly believes in personal rights, and I might add, does not like helmets, was very disappointed in your decision.
>
> I believe that as long as one is 18 or older he or she should be able to do as they please, as long as it does not infringe on the rights of others. To me, the government has taken away too many of our personal freedoms already.
>
> Three weeks ago a friend and I were in a motorcycle accident. We are both still in the hospital recuperating. (We got pretty banged up.) If not for your veto, I would not have been wearing a helmet. According to the doctors, if not for the helmets, at 22 years of age we would have been dead.
>
> My opinions on personal freedoms have not changed, but I guess there is a point in which some people need protecting. In other words, thank you for saving my life.
>
> (Name withheld)

I think this quotation makes one pause and wonder about our priorities. "Let us not be remembered as the generation that saved the whales and saved the trees, but ignored our own kind."

Well, we have covered a rather wide spectrum of the activities of the consumer in the marketplace. I would like to close on a light note.

TWO CAN PLAY THIS GAME

A farmer shopped around for a new car and became thoroughly disgusted with the pricing system, what with all the talk about optional equipment and "extras." But he settled on his purchase.

A few days later, the dealer who had sold him the car arrived at the farm to buy a cow for his small country place. The farmer sized up the situation and quickly scribbled the itemized bill:

Basic cow	$200
Two-tone exterior	45
Extra stomach	75
Production storage compartment	60
Dispensing device (4 spigots @ $10 each)	40
Genuine cowhide upholstery	125
Automatic fly swatter	35
Dual horns	15
Total (exclusive of tax and delivery)	$595

PUBLICATION AND ORGANIZATIONAL NETWORKS
OF ACCI AND ACR MEMBERSHIPS

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ABSTRACT

An examination of the profiles of the two major consumer professional organizations, American Council on Consumer Interests and Association for Consumer Research, revealed differences between the members of each organization regarding the modal academic rank, academic degree and area of specialization, years of experience, current department affiliation, and memberships in professional organizations. The relative ratings of periodicals related to consumer studies by the membership of the two organizations were compared and their familiarity with these periodicals was examined.

INTRODUCTION

The American Council on Consumer Interests (ACCI) and the Association for Consumer Research (ACR) are the two major consumer professional organizations with their memberships mainly composed of educators. Among the purposes of the two organizations are the stimulation of research and dissemination of research findings on consumer problems, consumer education, consumer attitudes and behavior, consumer economics, and economics of consumption.

The objectives of this study were to examine: 1) the academic affiliation of consumer scientists in each organization; 2) the professional organizational affiliation and publication network of members of each organization; and, 3) the relative ranking of periodicals to consumer studies by member of each organization.

The literature does not reveal any previous studies specifically directed to the publication and organizational networks of ACCI and ACR members; however, ACCI member's academic backgrounds, specializations, academic rank, and publications patterns are discussed in an article by Davis, Abdel-Ghany, and Morse [2]. The data base for the Davis, et. al. article was from "Consumer Science in Institutions of Higher Education" [7] which is the report of an in-depth survey of 27 college and university programs. They found the modal area of specialization for full time consumer science faculty with terminal degrees to be economics and family economics. Also reported was that the greatest percentage of consumer science faculty held the rank of associate professor and that the journals where consumer scientists most published were the Journal of Consumer Affairs, the Journal of Home Economics, and the Home Economics Research Journal. The refereed proceeding most published in were the proceedings for ACCI and for the American Home Economics Association, Family Economics--Home Management Section. A conclusion of the article was that although consumer science educators are publishing frequently in interdisciplinary journals, especially those in home economics, they are not frequently publishing in general economics nor in business related journals.

Some articles have been written concerning the relative ranking of journals in fields other than consumer science. Moore ranked journals by a system of relating the quality of the journal to the quality of the academic department of the contributor [5]. Billings and Viksnins derived a system where they determined the quality of the economics journal by selecting the top three journals and then compiling a cross reference count to other economics journals [1]. Skeels and Taylor developed a "Quality Index" that ranked journals according to the number of articles published in that journal that were contained in graduate reading lists of ten academic fields [6]. In the physical science area, Garfield ranked journals by the frequency and impact of citations for science policy studies [3].

METHODOLOGY

The data were collected by mailed questionnaires that included three sections. The first section solicited information concerning the academic rank, years of professional experience, academic degree and area of specialization, current departmental affiliation, and professional memberships of the respondent.

The second section of the questionnaire requested information concerning the outlets for publications of the respondent. The respondent was asked to state the number of times he or she had published in each of the listed periodicals. In order to determine which journals to include in the list of where the respondents published as well as the list for ranking of quality, the authors chose to use journals that contained articles most cited in other articles in the Journal of Consumer Affairs and the Journal of Consumer Research and to use journals that contained articles most frequently citing JCA and JCR. The journal citation reports of the Social Science Citation Index for the years, 1977, 1978, and 1979 was used to determine the combined cited and citing totals for each of the two journals. The data from SSCI led to the compilation of a list that contained not only JCA and JCR but also the Journal of Marketing, Journal of Consumer Research, Journal of Retailing, and the Advances in Consumer Research (the proceedings of the annual meetings of ACR). The authors added five additional journals to this list. These journals are not referenced in SSCI but were considered by the authors to be important outlets for authors of consumer science. These journals are: Home Economics Research Journal, Journal of Consumer Studies and Home Economics, Journal of Consumer Policy, and Journal of Home Economics, and the annual proceedings of ACCI.

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The last part of the questionnaire solicited two types of information. Using the same list of periodicals mentioned above, the respondent was asked to place an "x" next to any journal he or she was not familiar with. Also, the respondent was asked to rate the quality of the listed periodicals in terms of being outlets for scholarly articles in the consumer science area. This quality rating was accomplished by using a Likert type scale ranging from "1" representing low quality, to "5" representing high quality.

The questionnaire was pilot tested and refined. It was mailed to all members of the two organizations that are affiliated with higher education. Along with the questionnaire, a cover letter explaining the purpose of the study and a self-addressed envelope were included.

FINDINGS

Of the 823 questionnaires sent out, 386 usable ones (46.9%) were returned. These were divided into the following three categories according to the organization memberships: 155 ACCI members, 211 ACR members, and 20 who hold joint memberships in the two organizations.

The profile of the members of the two organizations and members who held joint membership is presented in Table 1. The largest percentage of ACCI members (34.2%) hold the rank of assistant professor, whereas, the largest percentage of ACR members (35.4%) hold the rank of associate professor. Half of the joint membership group hold the rank of full professor. Although Davis, et. al. [2] found that their data showed that the modal rank for ACCI consumer science educators was associate professor, their sample was from institutions with consumer science programs, whereas this study included all ACCI members in higher education whether they were in consumer science programs or not. A comparison of these results may indicate that those who are in consumer science programs usually have a higher academic rank than those who are not in consumer science programs. Also, these differences in findings between the Davis study and this study, along with other differences reported in this paper between the two studies, may be attributed to the possibility that a significant number of consumer science persons in the Davis study of 27 consumer science departments are not ACCI members.

Extension specialists represented 11.4% of ACCI memberships and only 0.5% of ACR memberships. Because ACCI has a significantly greater number of extension specialist members, this may have an effect on comparisons of the two groups and in several respects, e.g., academic rank, highest degree held, organizational affiliation, and publications.

Differences were noticeable for the highest academic degree held. Over 90% of ACR members have a doctorate degree, whereas, 64.3% of ACCI

TABLE 1 Profile of ACCI and ACR Members

	ACCI %	ACR %	Joint Membership %
	Current Rank		
	n=149	n=209	n=18
Instructor	7.4	5.3	0
Assistant Professor	34.2	31.6	27.8
Associate Professor	19.6	35.4	22.2
Professor	27.5	27.3	50.0
Extension Specialist	11.4	.5	0
	Highest Degree Held		
	n=154	n=211	n=20
Bachelor	.6	.5	0
Masters	35.1	8.1	5.0
Doctorate	64.3	91.5	95.0
	Area of Degree		
	n=142	n=188	n=16
Agricultural Economics	6.3	1.1	6.3
Business (excluding marketing)	2.1	5.9	6.3
Consumer Sciences	12.0	1.6	25.0
Economics	7.7	3.7	18.8
Education	12.7	4.3	0
Family Economics and Management	33.8	2.1	25.0
Home Economics	17.6	0	6.3
Marketing	7.7	81.4	12.5
	Academic Affiliation		
	n=133	n=195	n=17
Agricultural Economics	6.0	0	5.9
Business (excluding marketing)	4.5	7.7	5.9
Consumer Sciences	12.8	2.1	47.1
Economics	5.3	0	0
Education	3.8	3.6	0
Family Economics and Management	23.3	3.1	0
Family Studies	6.0	0	5.9
Home Economics	34.6	1.0	17.6
Marketing	3.8	82.6	17.6

members have such a degree. Ninety-five percent of the joint members have doctorates. Whereas most ACR members had been awarded terminal degrees in marketing, ACCI member's degrees were spread over several disciplines with family economics and management the most prevalent. The Davis study of Consumer Sciences professionals approximated this study's findings of the discipline of the ACCI member's degree but reported a much greater percentage (85.4%) who have doctorates.

The area of the academic degree seemed to be an indicator of the current academic affiliation (the type of department where the respondent had his/her primary academic appointment). Most ACR members were associated with marketing departments. ACCI members were affiliated with a variety of departments with home economics being the most mentioned. The average years of experience for joint members amounted to 14.1 years, whereas ACCI and ACR members averaged 12.2 and 8.9 years, respectively.

The organizational affiliation of the ACCI members and ACR members was quite divergent (see Table 2). The majority of ACCI members also belonged to the American Home Economics Association (AHEA) with only a few holding memberships in the American Marketing Association (AMA). The majority of ACR members, however, belonged to the AMA, with very few holding memberships in the AHEA. As might be expected, the number of organizational memberships was the greatest for joint members. Joint members averaged membership in 3.5 professional organizations. ACCI members average 1.84 and ACR members averaged 1.96.

TABLE 2 Organizational Affiliations

	Percent membership in other organizations		
	ACCI members %	ACR members %	Joint memberships %
American Economics Association	14.2	3.2	33.3
American Home Economics Association	83.3	8.6	85.3
American Marketing Association	8.3	55.4	33.3

Data concerning the number of published articles in periodicals related to consumer studies tended to reveal vast differences between the two groups. By examining Table 3, it is clear that whereas ACCI members tended to publish in Journal of Consumer Affairs, Journal of Home Economics and the proceedings of ACCI, the ACR members published mostly in the proceedings of ACR, Journal of Marketing Research, Journal of Consumer Research, and Journal of Marketing. Except for publications in JCA, there seemed to be only minimal overlap between the two groups. It is interesting to note that the small group of joint members published mostly in JCA and the proceedings of ACCI.

TABLE 3 Number of Published Articles in Periodicals Related to Consumer Studies

	ACCI	ACR	Joint Member
Home Economics Research Journal	.09	.03	.50
Journal of Consumer Affairs	.32	.20	1.40
Journal of Consumer Studies and Home Economics	.04	0	.20
Journal of Consumer Policy	0	.03	.15
Journal of Consumer Research	.06	.58	.10
Journal of Home Economics	.27	.05	.25
Journal of Marketing	.07	.56	.15
Journal of Marketing Research	.09	1.21	.05
Journal of Retailing	.05	.41	.50
Proceedings of ACCI	.28	.13	1.15
Proceedings of ACR	.21	1.91	.50

A substantive difference between the two groups is in the average number of publications per member per year. ACR members publish .66 articles per year, whereas, ACCI members published .16 articles per year. Joint members published .36 per year. Although in this study, data was not gathered on teaching load, it would be interesting if a difference in teaching load between the two groups would have accounted for the difference in publication productivity.

The results shown in Table 4 indicate a very narrow scope of familiarity with publications in the related consumer areas by the members of the two organizations. There were only two journals that both groups were quite familiar with and they were, not surprisingly, JCA and JCR. The majority of ACCI members were familiar with the Home Economics Research Journal, Journal of Home Economics, and the proceedings of ACCI. The majority of ACR members were familiar with the Journal of Marketing, Journal of Marketing Research, Journal of Retailing, and Advances in Consumer Research. Both groups were, to a large extent, unfamiliar with the Journal of Consumer Policy, and the Journal of Consumer Studies and Home Economics. The majority of joint members were very familiar with all periodicals listed.

The relative ranking of periodicals related to consumer studies is presented in Table 5. Only responses of those who were familiar with a specific periodical were included in the analysis of the ranking of that periodical.

In analyzing the ratings of quality, the five point scale was collapsed into the following three groups: low quality, average quality, and high quality. The ratings of 2, 3, 4 were used to indicate average quality. The Journal of Consumer Research, Journal of Marketing, and the Journal of Marketing Research were rated highly by both groups. The Journal of Home Economics was rated

TABLE 4 Familiarity With Periodicals Related to Consumer Studies

Familiarity with Periodical	ACCI members (n=194) %a	ACR members (n=111) %a	Joint membership (n=21) %a
	Home Economics Research Journal		
Familiar	76.9	15.8	90
Unfamiliar	23.1	84.2	10
	Journal of Consumer Affairs		
Familiar	99.3	70.7	100
Unfamiliar	.7	29.3	0
	Journal of Consumer Policy		
Familiar	24.8	26.6	68.4
Unfamiliar	75.2	73.4	31.6
	Journal of Consumer Research		
Familiar	71.6	96.2	100
Unfamiliar	28.4	3.8	0
	Journal of Consumer Studies and Home Economics		
Familiar	30.7	12.9	60
Unfamiliar	69.3	87.1	40
	Journal of Home Economics		
Familiar	84.8	21.3	94.1
Unfamiliar	15.2	78.7	5.9
	Journal of Marketing		
Familiar	56.2	96.2	90
Unfamiliar	43.8	3.8	10
	Journal of Marketing Research		
Familiar	44.7	98.1	85.7
Unfamiliar	55.3	1.9	14.3
	Journal of Retailing		
Familiar	37.2	86.4	75.0
Unfamiliar	62.8	13.6	25.0
	Proceedings of ACCI		
Familiar	86.7	26.7	90
Unfamiliar	13.3	73.3	10
	Proceedings of ACR		
Familiar	16.6	98.1	100
Unfamiliar	83.4	1.9	0

aPercentages are calculated for those who responded to questions.

TABLE 5 Relative Rankings of Periodicals Related to Consumer Studies

Relative ranking	ACCI members %	ACR members %	Joint membership %
	Home Economics Research Journal		
	n=114	n=57	n=18
Low quality	6.1	14.4	27.8
Average quality	27.2	71.2	27.8
High quality	66.7	14.4	44.4
	Journal of Consumer Affairs		
	n=146	n=144	n=20
Low quality	1.4	21.6	10.0
Average quality	17.8	51.4	15.0
High quality	80.8	27.0	75.0
	Journal of Consumer Policy		
	n=35	n=34	n=11
Low quality	5.7	35.3	0
Average quality	37.1	38.2	63.6
High quality	57.2	26.5	36.4
	Journal of Consumer Research		
	n=151	n=211	n=13
Low quality	5.9	1.2	15.4
Average quality	15.9	5.3	0
High quality	78.2	93.4	84.6
	Journal of Consumer Studies and Home Economics		
	n=42	n=26	n=6
Low quality	4.8	50.0	33.3
Average quality	42.9	46.1	16.7
High quality	52.3	3.9	50.0
	Journal of Home Economics		
	n=122	n=46	n=19
Low quality	38.5	67.4	73.7
Average quality	35.2	28.2	26.3
High quality	26.3	4.4	0
	Journal of Marketing		
	n=77	n=201	n=8
Low quality	6.5	3.0	12.5
Average quality	28.6	20.4	37.5
High quality	64.9	76.6	50.0
	Journal of Marketing Research		
	n=60	n=205	n=7
Low quality	0.0	1.0	14.3
Average quality	23.3	8.3	28.6
High quality	76.7	90.7	57.1

as a low quality journal by both groups. Generally, the home economics related journals

TABLE 5 **Relative Ranking of Periodicals Related to Consumer Studies (Cont.)**

Relative ranking	ACCI members %	ACR members %	Joint Membership %
	Journal of Retailing		
	n=51	n=181	n=15
Low quality	9.8	21.0	26.7
Average quality	56.9	40.3	53.3
High quality	33.3	38.7	20.0
	Proceedings of ACCI		
	n=124	n=50	n=18
Low quality	9.7	42.0	27.8
Average quality	32.2	42.0	61.1
High quality	58.1	16.0	11.1
	Proceedings of ACR		
	n=55	n=205	n=20
Low quality	20.0	16.1	15.0
Average quality	36.4	40.5	55.0
High quality	43.6	43.4	30.0

were rated relatively high by ACCI members and relatively low by ACR members. ACR members rated both the journal sponsored by ACCI and the ACCI proceedings much lower than did ACCI members.

It might be hypothesized that a person who publishes in a particular journal would rate that journal more highly in order to bolster the credibility of his/her publication record. Therefore, a test was made of the correlations between the respondent's rating of the periodical and his/her likelihood to publish in that periodical. Only the following have a significant correlation:

ACCI		
Journal of Retailing	-.25*	(.05 level of significance)
ACR		
Journal of Consumer Affairs	.31***	(.001 level of significance)
Journal of Marketing	.13*	
ACCI proceedings	.25*	
Joint Members		
Home Economics Research Journal	.42*	
Journal of Consumer Policy	-.58*	
Journal of Marketing	-.42*	

Since some of the correlations are negative, that is, the higher the respondent ranked the journal, the less likely he/she would have published in that journal, it may indicate that the ratings were probably done objectively.

CONCLUSIONS

The findings indicated that the ACCI memberships and the ACR memberships are quite dissimilar. ACR appears to be homogeneous of mainly marketing-oriented individuals, whereas the ACCI membership is much more heterogeneous with the plurality of member with a home economics orientation.

Substantial differences emerge when we examine the publication record of each group. ACR members published, on the average, four fold that of ACCI members. Several factors may contribute to this difference. First, the ACCI group has a much higher percentage of persons with a masters as the terminal degree. One might expect the primary responsibility of these persons is teaching with very little time for research, if any. Secondly, more than 11% of the ACCI group is in extension positions and these positions may not require and/or provide resources for research. Also, as the number of years of experience indicates, the ACR members are at earlier stages in their careers than ACCI members are. It is often at the earlier stage of the academic career where there are greater demands on research productivity.

It is disappointing to note the general lack of familiarity of members of both organizations with the periodicals that are related to the area of consumer studies. ACR members showed more unfamiliarity with journals that do not pertain directly to marketing. ACCI members seemed to be relatively more eclectic in their knowledge of journals.

The differences between the two groups may have been described by Kroll and Hunt in their conceptual analysis of consumer science [4]. In this work, Kroll and Hunt made comparisons between consumer science and marketing. Since this paper found that ACCI members are primarily affiliated with consumer science and the consumer science component of home economics, and that ACR members are primarily affiliated with marketing, Kroll and Hunt's observations are somewhat applicable to this paper. They found that consumer science is in an interdisciplinary stage where the practitioners are educated in related disciplines but concentrating on consumer science. These authors define marketing as being in the uni-disciplinary stage (a field that has achieved unique disciplinary status and where the marketing professionals have generally been educated in marketing itself). If what Kroll and Hunt say is true, that marketing is more developed as a discipline, this may help explain the array of differences between ACR members and ACCI members. This may also lead us to speculate that as consumer science "matures" into a uni-discipline form, their journals, e.g., Journal of Consumer Affairs, will be more highly regarded outside consumer science and their practitioners will be more productive in the publishing arena.

It was disappointing to the authors of this paper to find so few of the respondents holding joint memberships. ACCI members may criticize ACR as being too marketing oriented and ACR members may criticize ACCI as not being disciplinary or rigorous enough, however, if these two organizations are to more broadly serve the consumer interests, but yet maintain their own organizational uniqueness, it would be helpful for more people to become active members of both organizations in order to give input to foster this end.

REFERENCES

1. Billings, Bradley B. and George J. Viksnins. "The Relative Quality of Economic Journals: An Alternative Rating System," Western Economic Journal, 10, December 1973, pp. 467-469.

2. Davis, Elizabeth P., Mohamed Abdel-Ghany, and Richard L. D. Morse. "A Profile of Consumer Science Faculty in Institutions of Higher Education," in Karen Goebel, ed., Proceedings of the American Council on Consumer Interests, 1984, pp. 10-14.

3. Garfield, Eugene. "Citation Analysis as a Tool in Journal Evaluation," Science, 178, November 1972, pp. 471-479.

4. Kroll, Robert J. and Shelby Hunt. "Consumer-Interest Study in Higher Education: A Conceptual Analysis of an Emerging Discipline," Journal of Consumer Affairs, 14, Winter 1980, pp. 267-287.

5. Moore, William J. "The Relative Quality of Economics Journals: A Suggested Rating System," Western Economic Journal, 10, March 1973, pp. 156-170.

6. Skeels, Jack W. and Ryland A. Taylor. "The Relative Quality of Economics Journals: An Alternative Rating System," Western Economic Journal, 10, December 1973, pp. 470-473.

7. Stampfl, Ronald W. Consumer Science in Institutions of Higher Education: Data Base from the National Study, University of Wisconsin, 1983.

CONSUMER PROFESSIONALS FORECAST THE FUTURE OF THE CONSUMER MOVEMENT

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ABSTRACT

Utilizing the Delphi technique, a national sample of consumer professionals was surveyed in order to examine prevailing views and opinions about the present status of the consumer movement. In the survey respondents were encouraged to forecast the likelihood of particular changes in the movement and possible impacts of those changes. Also examined were opinions about who should and who will be responsible for traditional consumer professional functions such as consumer information, complaint handling, and leadership direction. Results provide a professional perspective on the nature of issues that will be of greatest importance to consumers and consumer professionals in the future.

INTRODUCTION

The phrase "consumer movement" refers to a loose coalition of community groups, senior citizens, cooperatives, labor unions, consumer affairs professionals in business, and consumer advocacy organizations who share a broad common objective to protect consumers' rights. In the dictionary definition of the word, "movement" refers to a series of organized activities working toward an objective or an effort to attain an end. Therefore, the concept of mobilization is implied in the definition of movement and consequently is required for any social movement.

However, as Boulding (1) pointed out, social movements are subject to the principle of the "increasingly unfavorable environment" as resistance is organized by those who hold other interests and beliefs. The principle of the increasingly unfavorable environment functions to make it difficult for any movement to expand past a certain point. One major concern of scholars and other professionals in the field today is that, as a social movement, consumerism is losing momentum, is diminishing in intensity, and, in general, seems to be waning. As outlined by Herrmann and Warland (9), the resurgence of the movement will depend both on the revival of concern with consumer problems by professionals as well as consumers.

Authorities have documented how the consumer movements of the twentieth century have brought forth a greater awareness of the concepts of consumer sovereignty, consumer rights and consumer responsibilities. Previous movements have functioned to provide hundreds of consumer protection measures which have been passed at both the state and federal levels dealing with drug and transportation safety, financial and credit protection, regulation of marketplace competition and increased consumer information. (5).

The purpose of this paper is to measure professional opinion in regard to the present status of the movement and its observed and anticipated changes. This information can serve as valuable input for future actions. Such a forum of thought can offer a forecast of where consumerism is headed, how professionals perceive that course may be changed, and the nature of issues that will be of greatest importance to consumers and consumer professionals for the next ten years.

REVIEW OF RELATED LITERATURE

Since 1976, researchers of three major studies, all funded by the private sector, have examined the popularity of consumerism and the changes occurring within the movement. In Consumerism at the Crossroads, conducted by Louis Harris and Associates, Inc. (7), a national sample from various backgrounds (activists, business representatives, regulators, and the public) was interviewed. In the second study, Consumerism in the Eighties, also conducted by Louis Harris and Associates, Inc., (8) a national sample of consumers was surveyed to obtain opinion about the success of the movement. Interviewing consumer advocates, government officials, educators and financial service executives, the most recent study, conducted by Meredith Fernstrom for American Express, (3) addressed the success of the movement and focused on trends that would specifically influence the financial services provider.

The three studies conducted in the area of forecasting trends in consumerism are not presently adequate for several reasons. The first study, which used a national sample of respondents from various backgrounds as well as consumers, is nearing its tenth anniversary and needs updating. In the second study only consumers rather than consumer professionals were surveyed. The third study focused on trends for a specific industry. Therefore, either existing research does not provide information for a broad consumer movement research format or it needs a contemporary reevaluation.

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METHODOLOGY

Method

The Delphi method, a technique used by business, industrial design researchers, military strategists, and futurists, was used to investigate the trends influencing the consumer movement. As outlined by Heyel (10), this method can be used for the systematic collection and collation of informed judgments obtained individually from members of a selected group of experts (often representing various disciplines or groups). Specific issues can be addressed while preserving anonymity, and refinement of judgments occurs through an iterative process to arrive at a "best possible" decision.

According to Pelton (11), the first step in a conventional Delphi is for the researcher or group of researchers to develop a list of questions based on trends they wish to investigate. Next, a group of professionals, knowledgeable on the issues or related topic areas, is selected and presented with the first round of questions.

After the first-round answers are received and analyzed, a second round of questions, based on the answers to the first, is submitted to the group. Participants are encouraged to review the results, consider dissenting opinion, and reconsider their own previously submitted opinion. At this point, they may revise or completely change their previous answers(s). Hence, a forum of professional thought is developed without requiring participants to physically meet at a central location.

Procedure

The Delphi method used for this study employs open-ended questions as well as some structured inquiries. The researchers selected this approach so as to gather the most information possible, without requiring the participants to use several hours in completing the questions. The structure of the questions was varied to keep the process an enjoyable and challenging experience for the participant.

The participants in the survey received two rounds of questionnaires. The first round was intended to gather expert opinion on the future of the consumer movement. The second round included the original copy of the completed first questionnaire, a blank copy of the same, and a detailed analysis of the collective opinion from round one. A cover letter clearly described the procedure to be followed by the second-round participants. Respondents were asked to react to the groups opinions and include second thoughts or altered views. There were four parts to the questionnaire.

As previously mentioned, the first part was designed to gather opinion about the likelihood of particular trends occurring within the next ten years. Further, the impact these trends would have on the future of the consumer movement was considered. The second and third parts were designed to extrapolate opinion concerning where the responsibility of the movement lies. The success of this approach is documented in an article entitled "The Policy Delphi" by Murray Turoff (12). This method enables the participant to choose more than one answer by ranking their responses. In addition, an open-comment section, in the tradition of the Delphi approach, was provided. The final part of the survey included questions which allowed the freedom of open answers in order to fully utilize the views and knowledge of the respondents. There were only five open-ended questions in this section.

Sample

Similar to Goldstein's use of the Delphi method (6), the researchers selected 70 professionals employed in various sectors of the consumer representation industry. Participants' were chosen with the intent of obtaining a representative cross section of professionals from each sector. Names were obtained through the American Council on Consumer Interests record of participants, Proceedings of the National Consumer Science in Institutions of Higher Education Symposium, the U.S. Office of Consumer Affairs Consumer Resource Handbook, and the researchers' personal contacts.

Further, seven professional referees were consulted, each representing a specific sector, in an effort to develop a complete list of professional respondents. The responses yielded a final sample of 9 federal government representatives, 5 state and local government representatives, 2 consumer organization representatives, 7 media representatives, 11 business representatives and 10 educators. Seventy questionnaires were mailed. Forty-four professionals responded giving a 63 percent response rate.

Results

Questions were derived from several sources. The three major studies discussed in the review of related literature served as the primary sources. In addition to these studies, a proceedings from a conference focusing on consumer professionals' opinions about the future of consumer issues (4) and a speech discussing the shifting make-up of consumerism, (2) also served as a basis for several questions.

Respondents were asked to determine the likelihood of particular trends occurring before 1995. The responses were ranked: very probable, probable, improbable, very improbable or no judgment. Respondents were then asked to indicate, given their speculation on the probability of the trend, what the impact would be on the future of consumerism. In a second section, respondents were given a list of responsibilities and were asked which of several sectors would and should assume responsibility.

Results are reported by question with a summary of the group response.

Table 1

EIGHT MOST IMPORTANT TRENDS	PROBABILITY OF OCCURRENCE	N	%*	IMPACT OF THE MOVEMENT	N	%*
1. Active efforts toward establishing a comprehensive, federal consumer protection office.	Very Probable	1	2	Strong	9	20
	Probable	14	32	Moderate	16	36
	Improbable	19	43	Slight or None	15	34
	Very Improbable	10	23	No Judgement	0	0
	No Judgement	0	0			
	TOTAL	44	100	TOTAL	40	90
2. Introduction of new consumer leaders who would focus on the rights of the poor and minorities, replacing the previous middle class movement.	Very Probable	6	14	Strong	4	9
	Probable	17	39	Moderate	22	50
	Improbable	15	34	Slight or None	11	25
	Very Improbable	2	5	No Judgement	1	2
	No Judgement	2	5			
	TOTAL	42	97	TOTAL	38	86
3. Due to the recent recession and attention placed on the plight of the elderly, consumers of the future will be more likely to save today for tomorrow.	Very Probable	6	14	Strong	4	9
	Probable	16	36	Moderate	15	34
	Improbable	10	23	Slight or None	17	37
	Very Improbable	5	11	No Judgement	4	9
	No Judgement	6	14			
	TOTAL	43	98	TOTAL	40	89
4. The types of issues confronted by consumer professionals will arise due to business practices. (e.g. car, toy, and/or food manufacturers)	Very Probable	13	30	Strong	11	25
	Probable	23	52	Moderate	17	39
	Improbable	5	11	Slight or None	11	25
	Very Improbable	0	0	No Judgement	2	5
	No Judgement	3	7			
	TOTAL	44	100	TOTAL	41	94
5. Consumers of the future will not know how to seek redress.	Very Probable	2	5	Strong	5	11
	Probable	3	7	Moderate	9	20
	Improbable	8	18	Slight or None	16	36
	Very Improbable	25	57	No Judgement	3	7
	No Judgement	2	5			
	TOTAL	40	92	TOTAL	33	74
6. We should expect to experience increased government regulation of business.	Very Probable	0	0	Strong	10	23
	Probable	14	32	Moderate	12	27
	Improbable	13	30	Slight or None	9	20
	Very Improbable	13	30	No Judgement	1	2
	No Judgement	1	2			
	TOTAL	41	94	TOTAL	32	72
7. Industry will make attempts to regulate itself.	Very Probable	7	16	Strong	4	9
	Probable	23	52	Moderate	21	48
	Improbable	9	20	Slight or None	9	20
	Very Improbable	5	11	No Judgement	1	2
	No Judgement	0	0			
	TOTAL	44	99	TOTAL	35	79
8. Among consumers, trust in major institutions (i.e. government, education, religion, employers, business) will increase.	Very Probable	1	2	Strong	4	9
	Probable	10	23	Moderate	18	41
	Improbable	17	39	Slight or None	10	28
	Very Improbable	10	23	No Judgement	3	7
	No Judgement	5	11			
	TOTAL	43	98	TOTAL	35	85

* Percentage based on total sample size of 44; missing data were not included.

sidered city or local government to hold responsibility as well.

Respondents indicated that while state officials will be responsible for assuring that consumers get a fair deal, federal officials should be responsible.

Open-Ended Responses

Five open-ended questions were included in the last section of the questionnaire. The following represents a synopsis of the group's response:

What changes in the movement would best benefit consumerism within the next ten years?

More consumer education was viewed as a point that would greatly benefit consumerism, according to 20 percent of the participants. Other points frequently mentioned that would benefit the movement included:

--a switch in the adversarial relationship shared between consumer organization representatives and business. (11%).

--more consumer awareness focused at the local, grassroots level. (11%).

--a change in the executive officeholders at the federal level. (7%).

--more effective complaint handling. (5%).

--federal officials who would work cooperatively with state officials. (7%).

--more responsiveness on the part of business. (5%).

What are your reactions to the federal administration's handling of consumer protection between 1981 - 1984?

Professional reaction to the federal administration's handling of consumer protection between 1981 - 1984 was split, by fifty percent. While business and federal officials felt reactions have been positive to neutral, state and local government representatives, media representatives, and educators felt the movement had suffered. Fewer recalls and investigations by federal agencies as well as deregulation of industries were cited as problems.

Do you view the consumer movement as monitoring small businesses, corporate business or the public sector most closely within the next ten years?

Professionals viewed the future movement as monitoring corporate business most closely. Further respondents stated that the public sector will receive almost as much attention, with small business receiving the least attention.

Is there a particular state(s) which has made significant strides toward serving consumers within the last five years? If so, please illustrate your answer with reasons why you cite the state(s).

Twenty-three percent of the group rated Wisconsin as highest among states in making significant strides toward serving consumers within the last five years. Cited were the formation and success of the Citizens Utility Board, a well organized mediation process through several state agencies, new rustproofing and lemon laws, and successful court settlements with Thorp Finance and Amway.

New York was given high marks for its lemon law, seat belt law, and its super fund. Other states frequently mentioned were California, Massachusetts, Florida, Connecticut, and Maryland (specifically Montgomery County).

Do you view the consumer movement as losing momentum in comparison to other social movements? Please cite which movements you see gaining popularity. They may or may not be related to consumerism, but please indicate why.

According to 36 percent of the group, the consumer movement has lost momentum in comparison to other social movements. The other movements seen as taking a hold were the environmental movement and a right-wing, Moral Majority movement. Also listed frequently were the anti-nuclear - disarmament movement, a movement against deregulation and a right-to-life movement.

What specific consumer issues do you see gaining the most attention within the coming ten years and why? Please categorize your answers as being a very important issue, an important issue or a tangential issue.

Among the very important issues gaining increased attention within the coming ten years were:

--medical and health care issues (30%).

--safety issues (25%).

The cost and quality of health care was a major concern as well as the safety of autos, the workplace, chemical hazards, children's products, and over-the-counter drugs. Also listed as very important were:

--environmental issues (18%).

--rights and care of the elderly (16%).

--personal money management (16%).

--distribution of income nationwide (14%).

--government spending (14%).

--international trade (11%).

Three important issues listed frequently were:
--environmental/pollution (21%).

Trend 1: The emergence of active efforts toward establishing a comprehensive, federal consumer protection office.

Sixty-six percent of the group felt that it is very improbable to improbable that there will be active efforts toward establishing a comprehensive, federal consumer protection office. However, they indicated that this trend will only create a moderate impact on the movement. (Table I).

Trend 2: The introduction of new consumer leaders who would focus on the rights of the poor and minorities, replacing the previous middle class movement.

Fifty-three percent of the group agreed that there will be a steady increase of new consumer leaders who will focus on the rights of the poor and minorities. Respondents indicated that these leaders, creating a moderate impact of the movement, will not fully replace the previous middle-class movement leaders. Federal government and consumer organization representatives felt that this trend was improbable and no change in leadership would create only a slight impact on the movement. (Table I)

Trend 3: Due to the recent recession and attention placed on the plight of the elderly, consumers of the future will be more likely to save today for tomorrow.

Consumers of the future will be more likely to save according to half of the group. This trend, respondents reported, is in large part due to the recent recession and attention placed on the plight of the elderly. While the total group felt the impact will be moderate to slight (2.50), consumer organization representatives felt the impact will be strong. (Table I).

Trend 4: The types of issues confronted by consumer professionals will arise due to business practices. (e.g. car, TV, and/or food manufacturers).

It is a clear probability, according to 80 percent of the group, that the types of issues confronted by consumer professionals will arise due to business practices. Business representatives were in full agreement with this probability and felt that all business practices will continue to be scrutinized with a greater emphasis placed on services. State and local government representatives attributed this trend to less involvement on the part of government. (Table I).

Trend 5: Consumers of the future will not know how to seek redress.

Three-fourths of the group felt that consumers will continue to know how to seek redress. Respondents indicated that consumers will do so in a traditional format (i.e. filing lawsuits with agencies, calling the business, seeking further information). However, they felt that it is improbable that consumers will exercise actions such as boycotts, pickets, or [illegible]. These action modes were expected to be the most active form of protest by consumers. (Table I).

Trend 6: We should expect to experience increased government regulation of business.

Fifty-percent of the group felt that increased government regulation of business should not be expected in the next decade. However, health and welfare issues were expected to receive more regulatory attention, according to 77 percent of the group. (Table I).

Trend 7: Industry will make attempts to regulate itself.

The group indicated that they expected industry to make attempts at self regulation. While some business representatives saw this trend as in light of an increasingly socially responsible sector, media representatives attributed business self-regulation as a strategy to increase business profits. (Table I).

Trend 8: Among consumers, trust in major institutions (i.e. government, education, religion, employers, business) will increase.

Sixty-two percent of the group did not foresee an increase in trust in major institutions. They added that this trend will only create a moderate impact on the movement, and that the increased sophistication of consumers and the complexity of society will create a more skeptical public.

Responsibilities

In section two, respondents were given a list of responsibilities and asked which of the following sectors assume responsibility and which should assume responsibility for certain tasks within the next ten years (Appendix C). The following is a list of the sectors: federal government officials, state government officials, city or local government officials, consumer organizations, media, business, the [illegible] person, [illegible], consumers, [illegible].

Consumer organizations were viewed as carrying the most responsibility in matters such as initiating legal action against business, uniting consumers in an effort to achieve action, and emphasizing the need for consumer legislation. Further, consumer organizations were viewed as being expected to fight for consumer rights and that of addressing the concerns consumers perceive themselves as having. While consumer organizations were considered the best source of consumer information, professionals felt that business should be the best source for information.

Business was seen as being the best source for information on technological advances in consumer products and services. The media was perceived as the second best source. While state government agencies were seen as becoming responsible for enforcing complaint systems, business should be responsible. However professionals clearly con-

--medical services (quality/cost) (14%).

--cost of necessities such as public utilities, credit, telephones, energy (11%).

Those tangential issues listed frequently were:

--solar energy (5%).

--product labeling and disclosures (5%).

--government spending (5%).

--comparable worth (5%).

Limitations

Several factors did contribute to biases in this study which are necessary to note. The complex nature of the first round questionnaire became a deterance in gaining more than the ultimate 63 percent response rate. A few comments from both participants and non-participants indicated that due to the broad-based nature of the research, there was almost too much information for participants to digest within the course of the survey. Moreover, the open-ended nature of the study made some participants feel obligated to elaborate on their answers to every question. This format, required a time commitment of up to one hour to complete the survey.

The second-round questionnaire, a comprehensive overview of the first-round material, required respondents to review their original answers and note any changes. Only 11 people responded to this second round which may have been due to the fact that some did not care to change their original answers. However some noted that the length was overwhelming.

Out of five consumer organization representatives contacted, only two responded. This was only 40 percent of that sector and only 5 percent of the total group. A more significant response by these leaders may have shed more diverse opinion on particular questions. Those consumer organization representatives who did respond only partially completed the study, nearly completely avoided the open-ended questions. The researchers feel that such opinion to these issues would have been beneficial to the study and may have altered the results.

Discussion: Unanswered Questions

Several implications can be derived from this study. The broad nature of the study leaves us with a myriad of ideas to consider. The following represent future research topics:

A great amount of professional respect is placed on independent consumer organizations for furnishing proper information, education, and as a force to unite consumers. However, these groups are the first to be plagued with low operating budgets, overworked staffs, and a high attrition rate. What would best benefit consumer organizations, both nationally and at the grassroots level, in an effort to maintain strong leadership and quality resources? What funding sources are available? Are consumers willing to directly contribute time and/or financial resources to such organizations?

Professionals felt that consumer organizations do offer the best consumer information, but that business should offer the best information. Furthermore, while business was considered to offer the best information regarding technological advancements, media representatives felt they were the best sources. Who does the consumer consider the best source? Who will the consumer turn to first for information and/or education? What is the cost of obtaining it? What other obstacles may prevent the consumer from obtaining it? How is the information accepted/used?

Professionals from a variety of sectors agreed that the adversarial relationship shared by consumer organization representatives and business people is detrimental to the movement's progression. A survey or interview of professionals in these sectors might best address what factors contribute to this behavior and how the attitudes can be changed to benefit the movement.

While this study had a distribution of responses from professionals from various sectors, it did suffer from low participation on the part of consumer organization representatives. Who are the autonomous and recognized consumer leaders of today? Which sectors are breeding the consumer information, protection, and education leaders of tomorrow? If it is not the consumer organization representative, what factors have contributed to the evolution of another sector having dominance?

A large assumption of this research has been that consumer professionals are capable of assessing the present status and future directions of the consumer movement. While this study has provided an overview of the consumer movement, it leaves unanswered the important question of whether consumer professionals can recognize the stages of their movement and plan strategically for these periods in the future. Perhaps other groups of professionals or possibly the public would represent a better gauge, or at least a supplemental index, of the health of the present and future of the movement.

REFERENCES

1. Boulding, K. The Organizational Revolution. Chicago: Quadrangle Paperbacks, 1968.

2. Bloom, P. The shifting make-up of consumerism. In Proceedings of the American Council of Consumer Interests' Annual Conference, Columbia, Missouri: University of Missouri, 1984.

3. Consumerism: Implications and opportunities for financial services. Study performed by Meredith Fernstrom, Senior Vice President of the American Express Company, March, 1984.

4. *Consumerism: the next five years*. Summary of the Fourth Springs Consumer Panel. Sponsored by Springs Mills, Inc., Fort Mill, South Carolina, 1976.

5. Dolan, E. M. and Rudd, J. President Kennedy's consumer message to congress: A twenty year view. *The Proceedings of the American Council on Consumer Interests' 29th Annual Conference*. Columbia, Missouri, 1983.

6. Goldstein, N. H. A delphi on the future of the steel and ferroalloy industries. In H. Linstone and M. Turoff (Eds.), *The dephi method*. Reading, Mass.: Addison-Wesley Publishing, 1975.

7. Harris, L. and Associates. *Consumerism at the crossroads*: A national opinion research survey of public, activist, business, and regulartor attitudes toward the consumer movement. Boston: Sentry Insurance, 1977.

8. Harris, L. and Associates. *Consumerism in the* eighties. Los Angeles, CA: Atlantic Richfield Company, 1982.

9. Herrman, R. O. and Warland, R. H. Does consumerism have a future? *The Proceedings of the American Council on Consumer Interest's Annual Conference*, Columbia, MO: The University of Missouri, 1980.

10. Heyel, The delphi techniques. *The encyclopedia of management*. New York: Von Nostrand Reinhold, 1982.

11. Pelton, J. N. The future of telecommunications: a delphi survey. *Journal of Communications*, Winter, 1981.

12. Turoff, M. The policy delphi. In M. Turnoff and H. Linstone (Eds.), *The delphi method*, Reading, Mass: Addison-Wesley, 1975.

APPENDIX 1
RESPONSIBILITIES

Explanation of technological advancements in consumer products/services.

Legal action against business which violates consumer rights.

Advocate for consumers to unite in order to achieve action.

Is best organized to fight for consumer rights.

Will emphasize to the public the need for additional consumer legislation.

Will be running complaint bureaus.

Will have the primary responsibility for assuring that consumers get a fair deal.

Will best address the concerns consumers perceive themselves as experiencing.

Can potentially offer the best consumer information.

TEACHING ETHICS AND HUMAN VALUES THROUGH CONSUMER EDUCATION: CONTRIBUTIONS OF ARISTOTLE, KANT AND MILL

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ABSTRACT

The overall objective of consumer education, according to a recent description by David Schoenfeld, is to "help individuals develop a sense of values, to determine what they most want from life, to set their goals and see them in proper proportion, and then to act according to their own principles" [7, p. 6]. Since consumer education is sensitive to contemporary issues, it offers students a good opportunity to engage in sharp, critical thinking about choices which are real and pressing to them at the time. Through consumer education we can get at ethical quandries and value choices which are daily realities having long-range impacts. But the contemporary environment is confusing. In a time of cultural transition, assumptions which have served as cornerstones for previous decisions are no longer completely trustworthy. Turning to ethical theory for guidance at this time of transition is both reasonable and helpful.

For advanced, industrialized nations like the United States, the last decades of the twentieth century, we are told, will be a time of profound transition, paralleled only by the shift earlier from the agricultural to the industrial society. The new age toward which we are inevitably moving has been termed both the "information age" and the "postindustrial society", and is characterized in part by prolific communications technology, a service-based economy, and alterations in the assumptions on which our current notions of culture rest. While on the one hand the movement toward the new society is a reaching out to embrace the new opportunities ahead, it is also a movement being pushed along by inescapable changes in the environmental, economic and political realities of the industrial era.

In 1978, Ronald Stampfl projected a timeline for the values shifts accompanying the cultural transition from an industrial to a postindustrial age [9, p. 25]. If his predictions were correct we are now experiencing the transitional era, sandwiched between the pursuit of "the American dream" on the one hand and a sincere concern for efficient and responsible consumption on the other. Stampfl described transitional consumers as being torn between the wants stimulated by the industrial age values they have assimilated and the marketing practices which encourage acting on those values, and the shoulds which are more supportive of the world condition as they have more recently come to understand it. Transitional consumers are no strangers to value conflict and are likely to be ambivalent and unsure about the proper consumption decisions to make. In the last analysis, they are involved in a question of ethics: In this instance, what is the right thing to do, think, or advocate?

THEORIES OF ETHICS

The study of ethics is the study of theories of human conduct. It is a continuing dialogue reflecting attempts of many philosophers over the centuries to describe behaviors that "ought to be"; to establish the criteria as to what actions are right and wrong, or to consider the nature and causes of virtue. In particular, the writings of Aristotle, Immanuel Kant and John Stuart Mill represent the great traditions which have shaped the secular visions of morality in our society. These authors have established the notions of moral and civic excellence, of equality and human dignity, and of tolerance and social activism.

Theories of ethics, or moral behavior, separate into two major types: deontological (from the Greek deon, meaning "that which is obligatory"); and teleological (from the Greek telos, meaning "end"). Deontological ethical theory is duty-based. It contends that duty involves a moral law and that the right thing to do is therefore derived from duty or obligation. Deontological theory asserts that human conduct is governed by a moral code which transcends culture and is universally true, and that the faculties of human reason imbue us with the knowledge of what is right to do, regardless of the consequences. The "categorical imperative" developed by Immanuel Kant ("Act only according to that maxim by which you can at the same time will that it should become a universal law") is a classic example of deontological ethics because Kant believed that this principle described a duty for moral behavior which was binding at all times and places [5, p. 39]. Deontological theory asserts that since we have control only over the will and not over the consequences or ends of actions, it is the intent of the action which is the subject of moral criticism, not the outcome. While the importance of the individual autonomy of the moral actor is stressed in Kant's ethics, such autonomy is limited by the overriding principle which requires that to remain consistent we must treat others as autonomous individuals like ourselves. This means we must respect their lives, treating them as ends and never as means.

Teleological ethics is goal-oriented and is composed of moral theories which assert that human conduct is rightly organized around and naturally motivated by the pursuit of a desirable end--a "good", or a goal. The challenge for any teleological moral code is to define the "good" or the goal deemed worthy of focused human behavior. Aristotelian ethics and Mill's utilitarianism are two predominant theories which are teleological. Artistotle defines the goal of all human action as personal excellence, which he says can be acquired partially through the practicing of personal virtues at the appropriate level of balance, between the extremes of excess and deprivation. For example, the virtue of generosity represents a position of balance between the extremes of extravagance and stinginess [1, p. 83]. For Aristotle, personal excellence is acquired primarily through the doing of the virtue--the practice of it--rather than from the end result of the action [1, p. 68]. He is thus more concerned with persons coming to be good, than with the good they will do once they are good. He asserts that through the voluntary practice of the virtues, we will eventually become virtuous. Utilitarian philosophy, which is also teleological, is more concerned with the satisfaction of desires than with virtuous dispositions. In utilitarian philosophy there must be some way to measure satisfaction, because an analysis of the costs and benefits of competing utilities is necessary for decision-making. For a utilitarian, one's motive is of little moral concern. If the end result improves satisfaction, then the good thing was done. A crucial component of utilitarianism, however, is that satisfaction is to be secured not only individually, but "to the greatest extent possible, secured to all mankind; and not to them only, but, so far as the nature of things admits, to the whole sentient creation" [6, p. 16]. Because of this emphasis on aggregate utility, utilitarianism is susceptible to individual injustice or inequality--not by intent, but through practice. For example, forfeiting the needs or desires of a few may be required as a sacrifice if the gains of the many are maximized. All that classical utilitarianism requires is that there be a net gain in utility. It does not require that the utility which is gained be distributed such that everyone shares in the gain.

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Culture in the United States in the 20th century subscribes primarily to the utilitarian moral view, a code consonant with a capitalistic, democratic society. The goal could be described as the achievement of aggregate satisfaction through the industrial efficiencies of a free growth economy. If enough can be produced, eventually it will be distributed, either directly or through transfer or trickle-down, so that all will enjoy living levels of sufficiency and decency. U.S. culture thus assumes that a fair distribution of maximized utility will be accomplished. The emphasis on economic growth and on material gain as the "good" throughout the industrial era has led naturally--although perhaps not logically--to a use of the Gross National Product and other national economic indicators as measurements of aggregate satisfaction. These indicators allow us to track our progress over time and provide a relative estimate of our net economic well-being, the assumption being that more is better. And consumption theory, of course, parallels utilitarianism. For consumers as well as utilitarians the goal of purposeful behavior is to maximize satisfaction by gaining the greatest amount of utility from available resources.

However, the abbreviated form of utilitarianism practiced in the United States has some ethical shortcomings. It is limiting in the sense that satisfaction tends to be measured predominantly in economic terms. The "bottom-line" mentality so prevalent today overshadows other potentially rewarding and possibly more sensitive ways of measuring human satisfaction and well-being. In addition, utilitarianism in the United States reflects the tendency toward inequality. For example, if satisfaction is measured in the aggregate, the rich may be encouraged through fiscal policy incentives to get richer because the overall increase in wealth maximizes national measurements of satisfaction, even though the basic needs of the poor may remain unmet. Worse, U.S. utilitarianism is also culture-centric in that concern about and measurement of satisfaction in the aggregate is limited to U.S. society, and not expanded to all of creation as Mill envisioned utilitarianism in 1861. With no measure for the rest of the world in the notion of the aggregate, and with the power that accrues to wealth, there is a tendency for the United States to take and use a larger proportion of world resources than its population size would justify in order to maximize its own national and cultural satisfaction. To the extent that consumption behavior reflects this culture-centrism, it manifests these ethical shortcomings.

CHALLENGES FOR EDUCATORS

During these years of transition, the challenges are many for educators attempting to effectively and responsibly address consumer issues. The increasing amount of cultural questioning as to whether industrial-age values are legitimate, justifiable, and sustainable for consumers of our time makes difficult and perhaps even outdated the teaching of the more traditional growth-oriented value assumptions. On the other hand, there is little that is concrete toward which one may focus attention. Those of us who feel a responsibility to address ethical questions will likely be hesitant and unsure about doing so since there appear to be no particular sanctions beyond personal conviction and previously developed, often contradictory, systems of moral thought to endorse particular viewpoints.

It is helpful to realize that as we go about our daily lives there are two sets of rules which govern our moral conduct. One is embodied in legality--in the laws we have agreed on to codify certain "shoulds" and "oughts" within our society. The other is described by the notion of ultimate concerns--those large convictions deeply held by individuals and about which we generally agree to disagree. Legalities and ultimate concerns can be viewed as being at two ends of a continuum, for there tends to be a gap or a sharp distinction between these two ways of dealing with morality: one is public, enforced, binding, obligatory; the other is private, voluntary, perhaps ideological, and to a great extent arbitrary. There are two unfortunate results of this gap. One is that there is a lack of moral discourse in our society. We tend to withhold from each other our ultimate concerns and to feel it is inappropriate to put our individual values on the line in the larger community. The other result is the tendency to want to solve moral problems through law--to increasingly regulate our interactions with one another. Consumer educators experience the same dichotomy. Taking a classroom stand based on one's personal values puts one on the end of the continuum closest to ultimate concerns--an important but somewhat arbitrary position. On the other hand, representing consumer responsibility as simply the legal obligations of consumers in this society seems limited indeed.

One solution to these moral polarities is to strengthen the middle ground, which could be called civility. Civility is the basis of our shared morality, and by way of civility ethical behavior is enforced informally through such mechanisms as peer group expectations and tolerance levels. As a culture we need to talk about our commonalities as well as our differences, for through respectful dialogue we can find the overlaps as well as the variations in our ultimate concerns. The commonalities of heritage and conviction need to be noticed and reinforced; otherwise, they run the risk of atrophy and death, especially in a time of cultural transition. An objective, then, of any study of ethics is to encourage the dialogues of civility. This is done by (1) helping persons develop a clarity of consciousness about their own ultimate concerns, and (2) providing individuals with a set of concepts and a degree of confidence so that they will be willing and able to express their convictions.

Both of these goals are important for consumer educators venturing into this realm. Ethical behavior does appear as a sub-concept in consumer education in the monograph Classification of Concepts in Consumer Education [2, p. 42], but it is not well defined as to what that should involve. Other consumer literature is equally lacking in direction and content about ethics. One notable exception is the description by Ronald Stampfl of a consumer code of ethics inferred from the four basic consumer rights clarified by John F. Kennedy. In summarizing his attempt to define a consumer code of ethics, Stampfl said, "These ethical prescriptions for consumers are suggestive of guidelines which must be developed by those in consumer affairs with a philosophical orientation. Fairness, justice and logic require that consumers must have an ethical framework to guide them in their marketplace behavior if they are to expect other marketplace participants to act ethically" [10, p. 19].

In my opinion, as consumers we have been more in the habit of blaming the system for our difficulties than in attempting to define our own responsibilities. The central consumer problem facing us now is not found in the headlines or on the congressional agenda. It is the problem of repositioning our cultural values and expectations so that they reflect the realities of the contemporary environment and result in consumer decisions which are appropriate and sustainable for our future in a changed world. Consumer educators do indeed need a set of concepts which help move discussions about values to the middle ground of civility, where issues can be examined from that common heritage and set of concerns recognized as being binding on us all. Ethical theory provides some of those concepts.

GUIDELINES FOR CONSUMER EDUCATION

Based on the preceding cursory analysis of ethical theory and in light of the contemporary consumer environment, the following guidelines for the application of ethics to consumer education seem reasonable and defensible as a starting point:

1. Insist on a concern for the well-being and satisfaction of other persons as a consideration in consumer decision-making. The obligation to include a concern about others as a component of one's own satisfaction is well documented in ethical theory as being morally sound. In fact, it is the common denominator in all Western moral thought. Consideration for the well-being of others mirrors both Aristotle and Kant in that it reflects good will toward each individual, and of course aggregate satisfaction is a cornerstone in utilitarian theory. These are both appropriate levels of concern for consumers.

   Economic theory is not helpful as a model in addressing this issue because of its emphasis on individual utility and satisfaction. Scitovsky notes, "Economists will not analyze the motivation of consumer behavior, claiming that that would be beyond their competence and that it would inevitably involve an improper judgment: that of judging one man's way of making the best of his life by another man's standards. As a result, the economist's approach to his subject tacitly assumes that consumers know what they are doing and are doing the best they can, so that the economist's only task is to see that the economy delivers what consumers want" [8, p. 5]. Theories of consumption thus begin with the assumption that any decision which maximizes a consumer's satisfaction--makes him happy at the time--is a rational consumer decision. In responding to this assumption, Lester Thurow observes, "Whether individuals buy good X or good Y they are still rational individual utility maximizers. By definition, there is no such thing as an individual who does not maximize his utility. But if a theory can never be wrong, it has no content" [12, p. 218]. Such a standard for rational decision-making endorses consumer choices which are short-sighted, wasteful, self-indulgent--indeed, even self-destructive. Still, it is viewed as a perfectly legitimate teachable concept about use of resources.

   To the extent that economic theory dominates consumer education, micro decision rules will continue to be taught which emphasize personal/private utility as the major criterion for satisfaction. To that extent as well, the potential exists for consumer education to advocate self-serving behavior which is culture-bound, ideological and narrow in scope, and virtually useless as a decision model for consumers of our time. Global aggregate welfare and basic human justice must become components of rational consumer decision-making. If this one guideline were carefully followed by a majority of American consumers, we would move much closer to ideal consumer sovereignty --the state in which a culture or a market consciously decides how its resources will be used.

2. Promote an awareness of cultural limitations and global influences. "The ultimate goal of a study of consumer economics," says Swagler, "should be to familiarize students with the environment in which they as consumers must operate" [11, p. 4]. On the whole, as educators, we haven't done too badly here. The socialization of consumers has long been a part of recognized consumer education content, in the sense that consumers must understand their own environment and their role in it, and must learn effective ways of managing the cultural influences on their behavior, to the extent that these influences are recognized. But at this juncture, I am advocating a wider understanding of cultural influence.

American consumer education has been culture-centric. As we move into the postindustrial society, students' perspectives of the consumer environment must widen to include the global community. If we are serious about consideration of the well-being of others, we must be aware of the ways in which American consumer behavior affects people elsewhere in the world. One such influence relates to global resource use. Since all people draw on resources from nature, both directly and through technology, resource depletion and waste can be seen as inexcusable affronts to global satisfaction now and in the future, and as such are profoundly immoral. Further, from the standpoint of the environment itself, separate from its human utility, such behavior is homocentric. It is crucial in our time that U.S. consumers adopt a global perspective on resource use and learn to look at the U.S. as only one part of a larger whole.

Another global influence of American consumption is derived from the power that accrues to a market with a demand like that of the United States. The growing interdependence of world economics and politics is complex, but the lure of the American market can and does tempt impoverished countries to export to the U.S. necessities for life which their own native populations require at home to avoid deprivation and starvation. Nutritionist Joan Gussow illustrates this point when she states that she hasn't eaten a banana for several years because she can't find a politically acceptable one to buy [3, p. 57]. Students of consumer education have to begin learning what it costs people of other countries to supply the magnificent market to which American consumers have become accustomed.

The global market and international consumer issues represent an area of interaction which is complex and difficult to understand. Often, however, questions of war and peace center around resource availability and distribution. It is imperative that American students be aware of the influence of their culture on the global community. They must come to realize that economic power of the magnitude experienced by the U.S. carries with it an overriding moral responsibility to make sure that power is not unwittingly abused. To this end, students need to see their roles as consumer, producer and citizen as being fully integrated and mutually responsible, and to be cognizant of the externalities of American consumption patterns both on persons living elsewhere in the world and on persons not yet born.

3. Include the virtues of sharing and giving in the list of consumer competencies taught. Sharing and giving are choices which can be made in the allocating of personal resources toward desired ends. They are not seen as priority behaviors for persons in a mass-consumption industrial society which stresses independence in activity and private ownership of possessions. Much more interest and attention accrues to spending, saving, borrowing and investing competencies. At present in the U.S., giving and sharing behaviors tend to be looked on as afterthoughts--as desirable options when one has something leftover or unused. Few people give "off the top" in response to a sense of moral duty to repay benefits gained or support a worthy cause. Part of the problem may stem from the sense of disillusionment so prevalent today among consumers. If one perceives that there never is enough for oneself, it is not likely that much will be shared or given away.

Both sharing and giving are practical ways of expressing concern for others beyond oneself, and are also ways of avoiding waste by gaining efficiency from resources which otherwise might be unused. But beyond their utility, the practice of these virtues can bring about an important attitude and value change in the person who is being good in the Aristotelian sense. Thus, even if one perceives himself to be alone in his efforts to conserve gasoline or act responsibly in other ways, there still are important reasons for doing so. Such practice also has the potential to replace the endless pursuit of one's own desires with activity which is meaningful and rewarding in a larger sense. And regardless of the outcome of a person's efforts to give or share, if the intent of the giver was in accordance with the categorical imperative, one has also acted morally from the standpoint of duty.

A corollary to the discussion of sharing and giving as ways of redistributing income or wealth is the consideration of justice as a moral priority in economic decision-making. Traditional ethical theories treat differently the supremacy of justice as a moral imperative. "Justice," says Aristotle, "is regarded as the highest of all virtues...It is complete virtue and excellence of the fullest sense, because it is the practice of complete virtue" [1, p. 114]. According to Aristotle, justice is a complete virtue because he who possesses it can make use of his virtue not only by himself but also in his relations with his fellow men. "Of the offenses (to justice) the lesser is to suffer unjustly and the greater is to act unjustly" [1, p. 128]. Utilitarians maintain that on the whole equality between equals is commendable, but that there are times when utility requires inequality. Mill does not believe that justice implies a right to a specific treatment, and thus sees no duty on the part of others to honor such a right [6, p.62]. He points out that the notion of justice varies with the situation, and suggests that only through utility can justice be appropriately explained in a situation. On the other hand, Kant contends that justice is a duty which must never be traded away or compromised. The categorical imperative for the good will implies a concern for justice, and humans must always be treated as ends, not means [5, p. 49]. While agreement about the priority of justice may not be reached, at the least justice can be understood as a central social value concerned with the fair distribution of goods. Questions about justice need to be asked and discussed in consumer education. A sensitivity to justice as a consumer issue can be developed with any definition, and the quandries of justice presented to students for their own investigations and conclusions.

4. Advocate emerging values and position them positively. The values which Stampfl describes as characterizing the postindustrial age are largely the values which have grown out of an awareness of resource limitations and interdependencies and a concern for conservation [9]. They are typical of values given priority by previous generations of Americans and by people living now in less affluent countries; they appear new to present generations of Americans who have been socialized in a culture of affluence. Transitional consumers particularly need to see the alternative values as a movement toward something good rather than as a loss of something better. The voluntary simplicity movement is a good example of this kind of active value choice.

Concentration on teleological theory may be more effective here. Much of the writing on the global population/resource crisis has been somewhat Malthusian in tone. For example, in his book An Inquiry Into the Human Prospect, economist Robert Heilbroner describes as the central challenge the inescapable need to limit growth. But Heilbroner is pessimistic. He concludes that humankind will not willingly make the changes in lifestyle necessary to limit growth because of the paradox that such changes have to be initiated by those least motivated to do so. His assumption is that those in power will refuse to deny themselves pleasures; that consumption and production are seen as the most desirable ends by most people in power; and that any change toward a lifestyle which requires less consumption would be perceived as a reduction in well-being, which would not be voluntarily sought by anyone [4, p. 135]. Heilbroner is probably correct that a sense of duty is not going to motivate the powerful in a capitalistic, consumption-oriented society like the U.S. toward corrective economic action. Self-denial for its own sake is seen as generally more stupid than virtuous, and few respond well to preaching, "guilt-trips" or doomsday threats. And Heilbroner and others may be right in suggesting that the needed changes will have to come through legalities or through wars of retribution. But it doesn't detract from the seriousness of the problem to present the alternatives in a positive manner. The disillusionment present among American consumers coupled with the global issues on the nightly news might just be enough to motivate some to voluntarily adopt some lifestyle changes and to become articulate in advocating the same to others.

CONCLUSION

The overall objective of consumer education, according to a recent description by David Schoenfeld, is to "help individuals develop a sense of values, to determine what they most want from life, to set their goals and see them in proper proportions, and then to act according to their own principles" [7, p. 6]. Since consumer education is sensitive to contemporary issues, it offers a good opportunity for students to engage in sharp, critical thinking about choices which are real and pressing to them at the time. Through consumer education we can get at ethical quandries and value choices which are daily realities having long-range impacts. But the contemporary environment is confusing. In a time of cultural transition, assumptions which have served as cornerstones for previous decisions are no longer completely trustworthy. Turning to ethical theory at this time is reasonable. Most people want to do the right thing, and ethics provides us with time-honored codes which can not only function as guides for choice but which also will widen our perspectives beyond "bottom-line" measurements. For as Fred Wilhelms has said, "What finally, more than anything else, determines the quality of our lives is the quality of our wanting" [13, p. 29]. Ethics provides a much needed dimension toward defining that end for consumers.

REFERENCES

1. Aristotle. Nicomachean Ethics. Translated by M. Ostwald. Indianapolis: Bobbs-Merrill Educational Publishing, 1962.

2. Bannister, Rosella and Monsma, Charles. Classification of Concepts in Consumer Education. West Chicago, Il.: South-Western Publishing Co., 1982.

3. Gussow, Joan D. "Women and Food," Country Journal, February, 1985. pp. 53-57.

4. Heilbroner, Robert L. An Inquiry into the Human Prospect. New York: W.W. Norton, 1974.

5. Kant, Immanuel. Foundations of the Metaphysics of Morals. Translated by L. Beck. Indianapolis: Bobbs-Merrill Educational Publishing, 1959. (Originally published, 1785).

6. Mill, John Stuart. Utilitarianism. Indianapolis: Bobbs-Merrill Educational Publishing, 1957. (Originally published, 1861).

7. Schoenfeld, David. "Consumer Education: A Capsule History," Mobius 3 (October/November, 1984): 6-8.

8. Scitovsky, Tibor. The Joyless Economy. New York: Oxford University Press, 1976.

9. Stampfl, Ronald W. "The Postindustrial Consumer," Journal of Home Economics 70 (January, 1978): 25-28.

10. Stampfl, Ronald W. "Multi-Disciplinary Foundations for a Consumer Code of Ethics," paper presented to the 25th annual conference of the American Council on Consumer Interests, 1979.

11. Swagler, Roger. Consumers and the Market. Lexington, Mass.: D.C. Heath and Company, 1979.

12. Thurow, Lester C. Dangerous Currents. New York: Random House, Inc., 1983.

13. Wilhelms, Fred T. "Consumer Education: A Key to Quality of Life," Forum, Spring/Summer, 1980, pp. 27-29.

THE CONSUMER FIELD
A DISCUSSION OF THREE PAPERS

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ABSTRACT

Three different subjects are addressed: a comparative study of ACCI and ACR members, a position paper on teaching values in consumer education and a Delphi study of opinions on the future of the consumer movement. Questions for ACCI members are raised for each paper.

INTRODUCTION

The papers presented are on three distinct topics. Although there are a few points of overlap in the paper on teaching values and topics noted in the Delphi study, the only common elements seem to be that they are papers of interest to ACCI members and have no particular common ground with papers in other sessions on this year's program. I will treat them as separate entities not meant to be contributing to a common theme.

ACCI AND ACR

We seem to have an interest in how we are doing compared to someone else. This paper feeds that interest by not only describing who we are, but what others think of our publications and what we think of theirs.

I'm not sure that the two groups are appropriate for head-to-head comparisons. The authors show reasons for considering the groups as different, and I would add that the timing of their respective foundings, the purposes for which they were founded and their differing histories put them in somewhat intersecting but largely disjoint sets. It is true that both organizations include research activities as a purpose, but for one it is one of several goals and for the other it is THE goal.

I wish the authors had given us some implications to discuss. They probably had some things they were expecting and have thought of uses for their findings. Perhaps they left this out so that the discussant then would have something to add. The exercise raises some questions for ACCI. Do we want to be more like ACR? If so, is it by having more room for marketing orientations or a more encompassing commitment to research as our raison d'etre? Do we want to encourage membership in ACCI for those in business positions? In Canada, we have an association for consumer affairs professionals from business, academe, government, and the volunteer sector of the consumer movement. I don't know of such a forum in the U.S. Should ACCI become that forum? While it is nice to have a journal that is rated highly by nonmembers, the real test of quality is still the service rendered to readers. Nevertheless, we might ask if the high percentage of our members that considers the JCA a high quality journal indicates that we are catering to readers with lower standards of excellence or to readers with different standards tied to different goals. If the latter, we don't care about the 75% of the ACR members who rate the JCA as average or lower. If the former, we have an education task ahead. There are other questions that might be raised, but these will serve to show that the generation of hypotheses and strategic questions for our leaders is the main value of this paper.

CONSUMER EDUCATION AND VALUES

This paper raises an important topic and gives us a push in a fruitful direction. Values, goals and standards are implicit in every consumer decision; as the author points out, economic concepts are either "valueless" or have unacknowledged values implicit in them; pretending that values aren't important or that any sincerely held set of values will do is naive at best and malevolent at worst. Any shortcomings that I mention about the paper do not detract from the contribution the author makes by making the topic more visible.

The paper is a start, but, as the author acknowledges, not much more. The discussions of the philosophical background and of the nature of the values she sees appropriate to the postindustrial society are very limited. This is of necessity for the time available but carries a price - incompleteness and a lack of rigor. What we get for the price is four guidelines for consumer education and its role in the teaching of values. These are worth noting.

The first is the promotion of an awareness of limitations and influences. The author has a specific conclusion about what should be taught, but that aside, one role for consumer education is to make consumers aware of the influences around them, the alternatives to the values implicit or explicit in the influences and the need to take responsibility for their choices. This stage we could call "values clarification". The second guideline is really an ethical stand, "insist on a concern for the well-being and satisfaction of the aggregate ...". Nevertheless, this and guideline three, including the virtue of sharing and giving in consumer competencies, represents a second stage, "values evaluation". Some values are more valuable than others and consumer educators need to address this area in doing a complete job of values education. Finally, both values clarification and values evaluation require that we have the sense of history recommended in guideline four, the positioning of emerging values. Actually, Peterson calls for us to "advocate emerging values and position them positively", but the text seems to ask only for learning from the past. I don't think that consumer educators should be asked to advocate or position postively any values that happen to emerge.

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In addition to the values that will emerge in a future age, we could take note of the values that seem important to every age. The author's point that history can help us position values is equally true for this area of consistently important values as for the understanding of values that show up occasionally.

If consumer educators are to perform in teaching (vs. inculcating) values, Peterson's paper also has some implications for ACCI. Obviously, the professional development of consumer educators needs to include the knowledge and skills to perform the tasks outlined. Materials that support this area of education need to be developed. At the very least, we need full sessions and expanded papers on both the values that we must understand and the approaches to teaching in this vital area. As I noted at the outset, the one thing we cannot do is ignore the area.

THE FUTURE OF THE CONSUMER MOVEMENT

The Delphi technique has its proponents. I have problems with it being any more than a laborious (albeit relatively inexpensive) conversation. When many drop out of the conversation, the promise of a comprehensive picture is further compromised. I think the authors understand these limitations, so I will jump to their suggestions for research. The main contribution of this technique is in this area, anyway.

The first set of questions is addressed to the viability of independent consumer organizations. This is a major concern, but I'm not sure that research is going to give us answers - the issues are philosophical in large part - but the leaders of the consumer movement will have to struggle with these issues in the realization that the answers of the 1960's and 1970's may have to be modified if not replaced. The anomolies noted by the authors help to realize that the status quo is not stable.

The authors state that the "study concluded that consumers are most concerned with benefiting their personal well-beings" and that "the increase in consumer leaders advocating the rights of the poor and minorities seems to contradict this". The study really concluded that consumer leaders think that consumers are only concerned with themselves. I would suspect that slowness to follow the leaders on rights of the poor would be the evidence supporting their view of consumers. Whatever the case may be for the leaders, sorting out where consumers are on a self-others scale would be a useful base for putting Peterson's values education into effect.

I was encouraged by the reported perceived need for consumer education for all age groups. The proposed Delphi study is less likely to help them some basic needs assessments for various segments of learners. Whichever step is taken, it would seem to be a good time to enlist support from the various groups taking part in this study. Where we start is a political matter and may vary from state to state. As long as adults are included in the list of target groups in a significant way, it probably doesn't matter who else is included at the outset.

We can be sure that the questions about information search behavior will get attention - probably reported at ACR meetings or in the Journal of Consumer Research. It is one of the major areas of interest that has occupied marketing for some time.

The remainder of the questions suggested are also worthwhile. Sufficiently worthwhile to encourage me to suggest that we need a study of the consumer movement using a model of collective behavior such as suggested by Neil Smelser[2] or Daniel Yankelovich[3]. This will allow us to consider the social structure, generalized beliefs and likely precipitating events leading to the behavior that gave rise to the questions set out in this paper. Without this objective background, we can't go beyond pooling opinions.

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[2] Smelser, Neil J. Theory of Collective Behavior. New York: The Free Press, 1962.

[3] Yankelovich, Daniel. New Rules. New York: Random House, 1981.

COMMENTARY ON "AMERICA AT RISK: A HISTORY OF CONSUMER PROTEST"

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ABSTRACT

"America at Risk: A History of Consumer Protest" is a one-hour documentary, funded in part by Consumers Union, which examines the history of the consumer movement. This discussion describes some uses of the documentary in a classroom setting, and offers several personal observations on the film's technical quality, content, and overall impact.

Let me begin by saying that I am delighted to have this documentary available for teaching about the consumer movement. It is timely and appropriate in the 1980s, and I consider it to be a most fitting project with which to commemorate a half-century of effort on the part of Consumers Union to further the consumer interest. This visual history provides a valuable perspective and context for contemporary consumer education, and will bring to life for today's students much of the passion and enthusiasm characteristic of social reform. Most of us use in our classes the excellent history compiled by Robert Hermann, and much of that is recognizable in "America at Risk". But having the history now in sound and living color provides considerable impact for students of the video age since they are used to getting information in that way. The comments which follow focus primarily on the potential uses for "America at Risk" in the classroom, and I have some observations to share about its technical quality, content, perspective, and overall impact.

TECHNICAL QUALITY

The radio-tv production staff at the University of Montana continually reminds the faculty that anything which is going to be shown on a television set must be a first-class production. Viewers are accustomed to technical excellence and excitement from general broadcasting and therefore expect the same quality whenever they watch a TV. The medium is indeed a great part of the message. Inferior or amateur technical work lacks credibility with an audience, inviting criticism and diminishing the impact of the content, no matter how important or profound. "America at Risk" measures up--it is educational television at its best. The documentary is rich, textured, colorful, active, exciting. It includes a wonderful collection of visual images: black and white, color, stills, action, current events, archival footage. Information is presented in a variety of ways: through narration, interviews, newsreels, ads. All are skillfully woven together in ways that capture interest and capitalize on the unique capabilities of television, using them to the greatest advantage. We can meet people, go places, experience the past, become involved personally. It sparkles!

The script and format chosen will generally prevent "America at Risk" from becoming quickly dated, a problem with much of the audio-visual consumer education material presently available. The questions at the end about the effects of the deregulation of the 1980's on future consumerism may create some problems. However, I think those questions are open-ended enough that when the answers are known in the future, discussion can proceed forward from that point and the film will still be effective as a valuable summary of the consumer movement. At some points I did find the background music to be strident and intrusive, and wished that it would quit so I could pay attention to what was being said. But overall the documentary generates excitement and commands attention. My students were glued to the set as they watched it, demonstrating their involvement by laughing, wincing and otherwise responding to the events on the screen.

My students thought the program was redundant in returning again to each of the three cases described at the beginning. We discussed why the script was done that way, and decided that probably the intent was to take us from the present to the past and then forward again, showing that there are continuing situations which put American consumers at risk. (As one student said, "I thought legislation had solved most of these problems. I see now that it hasn't.") Despite all that, my students still thought the first ten minutes could be omitted. Perhaps shortening the presentation in that way would be an option, since the full hour length may present a problem in many classroom situations.

Even if the full program can be squeezed in, there is likely to be little time for immediate classroom discussion. One way to keep ideas fresh for the next class meeting is to encourage students to take "word notes". These are one-word concepts which students write down while viewing to remind themselves later of an idea they found interesting. Before the next class meeting, they are to select 5 of those concepts, put them in sentences, and complete one of these two statements: I could use this idea by . . . or, I wonder . . . . Another technique which is helpful in recalling ideas to mind later for discussion is to ask different students to look for different things as they watch the film. One might watch for something he agrees with, another for something which surprised her, another for something with which he disagrees, and so on. Some bias may be built in as a result of the focused viewing, but identifying diverse viewpoints will spark a later discussion.

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CONTENT

"America at Risk" is packed full. If you blink, yawn or try to take a note or two, you miss something. I use it at the beginning of my course since virtually anything we discuss during the term can be related back to a visual image planted in the students' minds by the film. I can then continually use the documentary, repeatedly referring to it for context and perspective on classroom topics.

The presentation of material, while certainly liberal and pro-consumer, is not strongly adversarial or radical or heavily propagandized. The documentary is, of course, a history of the consumer movement, and some editorial bias is unavoidable simply by nature of the events which are selected to be described and highlighted. On the whole, though, I think the film is essentially a factual portrait of the evolving American marketplace, ripe with issues to analyze and questions to ponder. In my opinion, the facts speak for themselves and there is editorial strength in allowing them to do so. "America at Risk" emerges as proof, living and in color, that the consumer movement has indeed been the "shame of marketing" without anyone belaboring the point. Perhaps if I were an arch-conservative corporate executive with budget problems rather than a consumer educator I would see the film as being more extreme, but I am comfortable using it in the classroom with its current balance of viewpoints.

Some of my reactions to the content can be traced to my own personal demographics, particularly the descriptors of sex, occupation and age. As a woman, I was particularly delighted to see the acknowledgment and portrayal of the role of women in the consumer movement. The number of women interviewed, shown as leaders, and depicted in stills and news footage is both unusual and welcome. Young women today need to see role models of this sort--strong, articulate, committed, intelligent women who have made and are continuing to make contributions in the best of the feminine tradition. Women can see in the documentary that their grandmothers and great-grandmothers were instrumental in shaping this part of the American tradition, and that there are many effective ways for them as well to influence decisions and gain power over their lives.

As a home economist I was also very pleased to see the contributions of the home economics profession to the consumer movement acknowledged and highlighted. Many viewers unfamiliar with the beginnings of home economics may be surprised to learn that it has its roots in social reform and environmental concern, not in conservative tradition. Home economics students and professionals who see "America at Risk" should feel quite proud of their heritage. Hopefully, they will also be prompted to examine their own roles and goals in light of the original thrust of the movement, the work that remains to be done, and the way in which they want the profession to be viewed now and in the future. I for one intend to ask some of these questions in my classes.

Finally, since I am an elderly "baby-boomer", I was in college and graduate school in the 1960's. Viewing "America at Risk" took me back. I was there again, seeing the same things on television that I saw twenty years ago. Reliving the excitement and activism of those years was both nostalgic and disturbing. The nostalgic part was that I found myself swept up all over again in the heady visions and youthful enthusiasms characteristic of the Kennedy years and that time in my life--the convictions that people could make a difference and the willingness and even eagerness to group together and work for something meaningful. Then when the tape was over, I was struck with the vast difference in mood and spirit characteristic of young people today, and that was the disturbing part. The passivity and conservatism which pervade our contemporary society seem almost stifling by contrast. What has happened to the sense of vision and purpose which have been the catalysts for so much of American history? How do we give it back to our young people?

I think "America at Risk" has part of the answer. I had hoped the students who watched it would be swept up in the excitement like I was--but I guess you had to be there. Probably the history of the consumer movement pales next to what they are used to in video excitement! But the part of the answer which is here is through role modeling. By way of this film, students can meet real people who have given a lifetime of professional energy, effort and intelligence to a cause in which they found meaning. They can see those lifetimes unfold, observe those people in action, and see the ways in which influence came to bear. Ultimately they can see that one person here and one person there, man or woman, young or seasoned, can make a difference. If we can convince our students through consumer education that they can make a difference, we too will have made a difference. For out of that will grow the grass-roots action necessary now for maintenance of the consumer movement in the 1980's and beyond. "America at Risk" is an invaluable tool toward that end.

CONCLUSION

In dealing with the pressures and distractions of daily life, it's easy to lose one's sense of direction. For consumer educators I think this is especially true. There are so many issues crying for attention and interesting to explore which relate to our consumer mission. The longer we teach, the harder it is to squeeze everything into the time allotted. I have reached the point again in my classes where I need to go back to the beginning, select the most important concepts, and refocus course content and objectives. The consumer movement is also somewhat diffused and in a state of transition due to the contemporary political and economic environment. In choosing new directions now for the future it is especially important to recall the foundations of the past. Looking back always provides important perspectives for moving forward--we see where we've been and why, and what we choose to do next takes its meaning and sense from the momentum already established.

AMERICA AT RISK--One Educator's Views

Gordon E. Bivens, Iowa State University

"America at Risk: A History of Consumer Protest" is an outstanding portrayal of many of the main events which, woven together, constitute a major portion of the U.S. consumer movement. However, the film make no claim to having tried to portray the totality of the consumer movement. Therefore, it doesn't deal with the social science research or the educational dimensions which also are a part of that movement, as the very existence of the American Council on Consumer Interests attests.

An aspect of social conditions today which bears additional comment is the matter of trust which is indirectly raised by Michael Pertshuk. Too often, I feel, we don't take stock of how much society pays (that is, we pay) for deteriorating trust levels. The added costs which are incurred and built into pricing structures, in turn to be paid by consumers, because of lack of trust are substantial. And, unless we can find ways to stem the deterioration of trust levels, those costs are likely to continue to mount. No amount of protest per se will deal with that. It requires a willingness to examine our moral and ethical commitments as well as a willingness to act upon those. And we humans don't seem always to be willing to do that.

Although the National Consumer League's motivation was to overcome exploitation of workers during the 30s and 40s, it illustrates an action with roots back into moral and ethical considerations--they felt it was wrong to exploit human beings so that other humans could benefit. Also, Ralph Nader's appeal for moral accountability as an ideology is in line with this need to be concerned about the moral and ethical foundations of the consumer movement.

The film does a good job of showing how coalitions can be effective politically--e.g., the American Home Economics Association and feminist leaders joining together to protest in the mid-30s. Perhaps we need to be reminded of the saliency of coalitions to bring about reform. Coalitions sometimes of individuals and organizations with radically different views about certain subjects but which happen to agree on issues of substance in the consumer interest. We need to be willing to join forces on an issue-by-issue basis.

One is reminded in viewing the film of the difference between technological risk and economic risk. It seems to me that we've been better at arousing public concern about consumer issues that involve technological and health risks than we have about stirring concern over economic risks. That may simply be stating a challenge for us to keep in mind and work on.

Our interdependence--both on one another domestically and between countries internationally--is well taken (ala Michael Pertshuk's comments). As consumers and in our citizen roles more generally we need reminding from time to time of our great dependence on one another. Perhaps if we are reminded often enough we will take action to find ways to implement quality standards which facilitate international movement of goods as well as bring about more rational monetary and fiscal policies which do not have the effect of impeding international movements of goods and even services.

As an editorial aside, I would like to make a plea for those of us in the consumer movement, perhaps especially those in the educational arm of the movement, to consider its impact on the development of human resources. The extent to which human beings are free to develop their potential is dependent, at least in part, on the realization of the goals of the consumer movement. If we perceive it that way, it may help us to keep our perspective of the consumer movement and its constituent parts more in balance and comprehensive.

"America at Risk" is a fine film. It should be useful in arousing interest as well as understanding among traditional students (secondary, college, university) and with adults and others in informal educational programing as well. It is well done.